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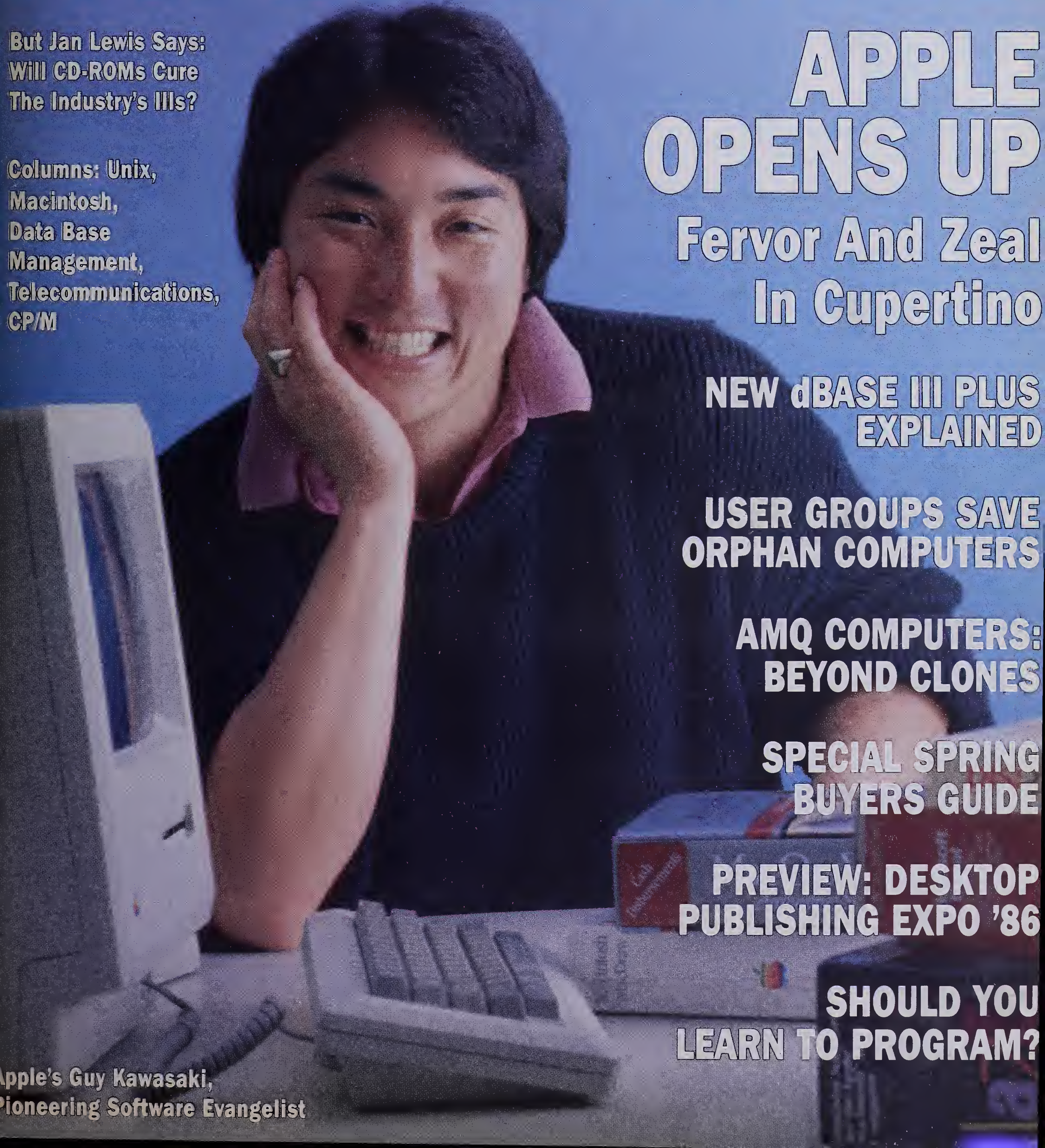

But Jan Lewis Says:
Will CD-ROMs Cure
The Industry's Ills?

Columns: Unix,
Macintosh,
Data Base
Management,
Telecommunications,
CP/M

APPLE OPENS UP

Fervor And Zeal In Cupertino

NEW dBASE III PLUS EXPLAINED

USER GROUPS SAVE ORPHAN COMPUTERS

AMQ COMPUTERS: BEYOND CLONES

SPECIAL SPRING BUYERS GUIDE

PREVIEW: DESKTOP PUBLISHING EXPO '86

SHOULD YOU LEARN TO PROGRAM?

pple's Guy Kawasaki,
ioneering Software Evangelist

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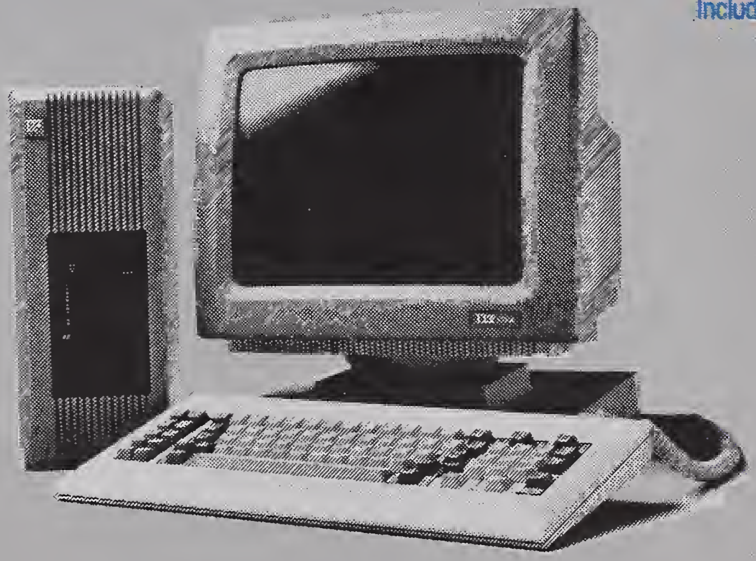

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COVER STORY

Guy Kawasaki, demonstrating another thing you can do with a mouse.

28 Apple Opens Up – Fervor And Zeal In Cupertino

By Mary Eisenhart and Paul Hoffman

Guy Kawasaki, who characterizes himself as "one of the last bastions of irreverence at Apple," was the company's second software evangelist for the Macintosh. Two years later, the Mac, which started out in life with rather less than a handful of software packages, now boasts over 1,200 programs for applications from accounting to zoology. In this interview, Kawasaki explains the software evangelism program and its place in Apple's future, and discusses possible future directions for the Apple II and Macintosh lines. Executive v.p. Del Yocam also discusses Apple's plans for remaining market-driven in a changing marketplace.

COLUMNS

52 Macintosh

By Barbara Leone

Dayna's MacCharlie, and why it may be the solution for the office that requires both IBM and Macintosh capabilities.

73 UNIX

By Bennett Falk

A look at some of the PC-based Unix options offered at last month's Computer Faire.

76 CP/M

By Robert D. Athey, Jr.

Tips on how to find out what's in those cryptic-looking files on your disk directory.

78 Data Base Management

By Warren Sirota

Why keeping bad data out of your files may be a bigger problem than you think, even in a relatively simple task like maintaining a mailing list.

84 Telecommunications

By Brock N. Meeks

Bulletin boards for all occasions.

DEPARTMENTS

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Will CD-ROMs End Industry Doldrums?

In the general euphoria over CD-ROMs, many people are losing sight of the technology's current limitations.

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Preview: Desktop Publishing Expo '86

This show, presented by MicroTimes and Golden Gate Shows May 23 – 24, offers the business community and the general public a look at the products and concepts behind this exciting new technology.

FEATURES

22 DHA's FastPak: Common-Sense Business Software

By Paul Hoffman

Doug Haylock doesn't care if accounting software uses a lot of fancy tricks and sophisticated terminology. He thinks it should get the job done, quickly and easily. He thinks a lot of business users will agree with him — hence the *FastPak* software series.

27 Lord British Speaks

By Mike Markowitz

The creator of the *Ultima* series and co-author of the new release *Autoduel* discusses his current projects and the future of the gaming industry.

51 Should You Learn To Program?

By Fred Blechman

Noted TRS-80 programmer Blechman explains why he started programming, its benefits and hidden pitfalls — and why, these days, the new user might not want to bother.

63 AMQ Portables: Don't Call Them Clones

By Paul Hoffman

This company believes in making portable PC, XT, and AT compatibles that improve on IBM's standard — and their customers like the idea.

64

User Groups Save Orphan Computers

By Tim Tyler

Checking in with the Gavilan User Group and the LA (TI)99ers, both of whom have been instrumental in maintaining, improving, and in some cases essentially re-creating computers abandoned by their parent companies.

68 Scenes From A Party

MicroTimes and Gates Distributing hosted a party to kick off last month's Computer Faire. Revisit those memorable scenes...

86 Special Expanded Spring Buyers' Guide

Whatever you need a computer to do, there's probably a product to get the job done. This extensive survey of new products is a good place to start looking.

HANDS ON

54 dBASE III Plus: What's New?

By Warren Sirota

A look at the enhancements and capabilities of Ashton-Tate's latest release, as well as some suggestions for future versions.

60 Compact Data Storage For Macs: MacBottom

By Barbara J. Chan

This lightweight, compact hard disk drive offers efficient 10- or 20-megabyte storage for the Macintosh user. Here's a look at its capabilities.

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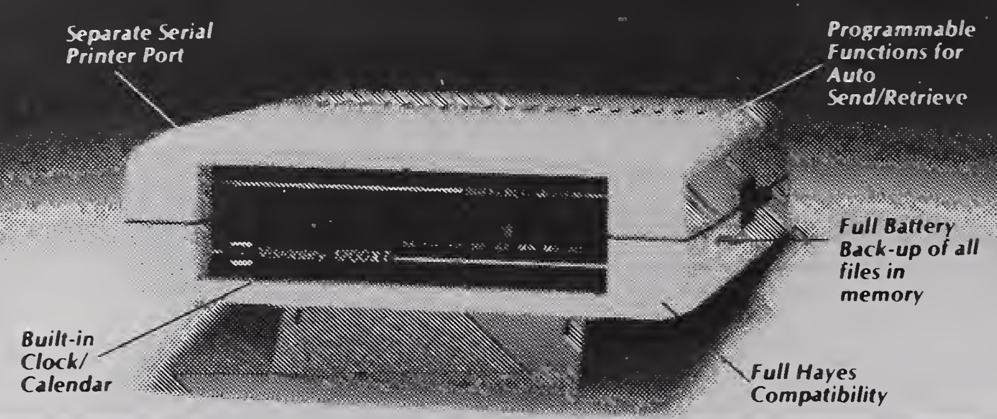
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This Vol. 3. No. 5, May 1986, Whole No. 20 MicroTimes, California's Computer Magazine, is published by BAM Publications, Inc., 5951 Canning St., Oakland, CA 94609. Phone (415) 652-3810. Los Angeles Office, 1800 N. Highland, Suite 220, Hollywood, CA 90028. Phone (213) 467-7878. San Jose Office, 36 Harold Ave., Suite 8, San Jose, CA 95117. Phone (408) 244-4400. Anaheim Office, 800 S. Brookhurst, Suite 1F, Anaheim, CA 92804. Phone (714) 776-2900. MicroTimes™ is © 1986 by BAM Publications, Inc. Subscriptions rate: 12 issues, $12. All rights reserved. Reproduction in whole or in part without permission of Publisher is strictly prohibited. Unsolicited material is gratefully accepted, but we can't be responsible for returning it unless it is accompanied by a stamped, self-addressed envelope. The staff and management of MicroTimes do not advocate or encourage the use of any product or service advertised herein for illegal purposes.

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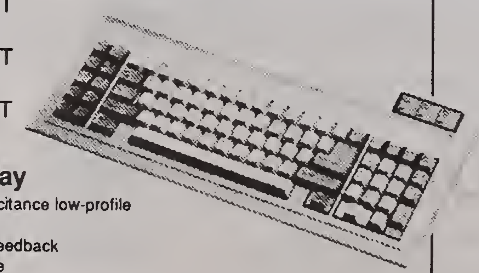

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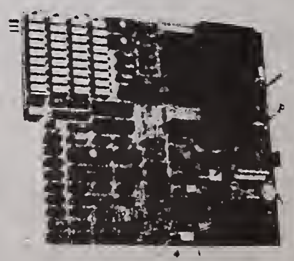

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LETTERS

MicroTimes Gets The Word Out

I've had many phone calls about the piece in your latest **MicroTimes.** Of all the media I've used to get the word out, your magazine has the best coverage and response. I've been particularly surprised and pleased by the calls from the LA area. Thanks much.

Michael Odawa
Mill Valley

Michael Odawa is the director of the Software Entrepreneurs' Forum's Legislative Committee. Last month we published his guest editorial on pending changes in the interpretation of California's tax laws and their adverse effects on the software developer community. For more information on this issue, contact SEF at (415) 854-7219.—eds.

Why Is This Editor Smiling?

Your latest issue [April 1986] is not only the best ever, but I vote it the best single issue of *any* computer magazine ever. Loved the Jan Lewis and Paul Hoffman pieces, the Electronic Arts profile, the *MicroPhone* and *Tempo* reviews. Keep up the superb work!

Howard Rheingold
San Francisco

Howard Rheingold is the author of numerous books, including, most recently, Tools For Thought. *To the best of our knowledge, nobody made him write this letter.*—eds.

User Group Says Thanks

I would like to take this opportunity to express my appreciation for the support **MicroTimes** has shown to Apple Sac and other user groups by listing user group information in your publication. Our members have complimented you and your staff for the service you provide. It's gratifying to know that companies such as yours are supporting user groups such as ours.

Ray Beam
President, Apple Sac
The Apple Computer User's Group of Sacramento

Revolt Of The Atarians

MicroTimes is neglecting an important readership—the Atari 520/1040ST community. Since the 520 ST is a far more popular computer than the Amiga, I don't understand why you don't have more stories aimed at the Atari user.

It seems that every issue has heavy coverage of Amiga-related products, and nobody's writing about all the products being created for the Atari. What's going on here?

George Lewis
Hawthorne

Without getting into what is rapidly developing into a religious war between Amiga and Atari ST partisans, we'd like to state our commitment to supporting the extensive Atari user base as much as possible. Several projects are in the works and will appear in future issues.

Meanwhile, we welcome your suggestions, Atari users. If you know about a great product or service that you think our readers would like to know about, send us a note about it.—eds.

Letters are heartily encouraged. Send electronic mail to **microx** *on The WELL, (415) 332-6106. Send US Mail to 5951 Canning Street, Oakland, CA 94609. Please include your real name and the city where you live. Anonymous letters will not be printed.*

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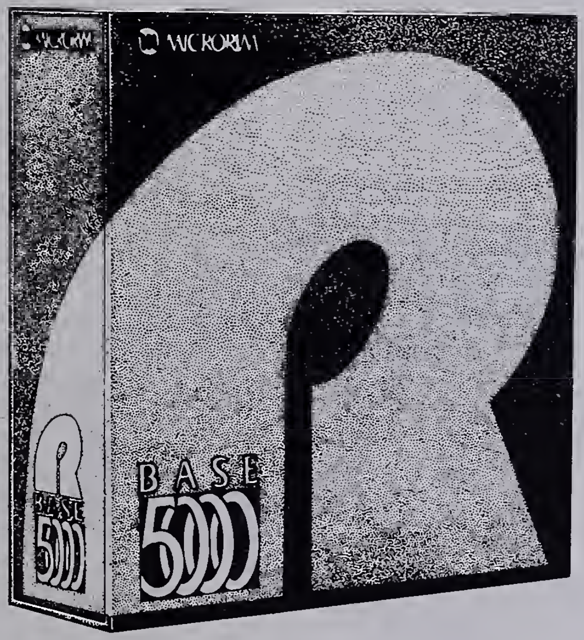

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CALENDAR OF EVENTS

Through May 31 Exhibit of Computer Art by James Dowlen. Computer Arts Institute, Corte Madera. Tuesday-Saturday, 12–6 pm. (415) 924-6955. Free.

May 3 Bay Area Computer Swap. Cow Palace, San Francisco. Microshows, (415) 340-9114 for information.

May 7 Swap Meet. Sponsored by Apple Sac, Sacramento Apple Users' Group. Call Ray Beam, (916) 334-1200 for information.

May 7 Real Estate Management and Accounting Seminars. Featuring Michael J. Hanrahan, president of Paradigm Real Estate Systems, and J. Michael Brown, executive vice president of Alternative Management Systems. Two sessions, 9 am–noon, 1–4 pm. No charge, preregistration required due to limited space. Call Howard M. Haberman Associates Inc. for information and registration (415) 641-0850.

May 10 CADCAM Business Seminar. 10 am–12 noon. Seminar and demo featuring AutoCAD software and Nicolet plotters. MicroFlash Training Center, 1110 Burnett Ave., Concord. Limited seating, preregistration required. $15. Call Dennis Bowman for information and registration. (415) 680-1157.

May 10 Pleasanton Computer Swap. Alameda County Fairgrounds, Pleasanton, 10–5. Contact Golden Gate Shows, (415) 388-8893 for information.

May 11–15 Computer Graphics Conference and Expo. Anaheim Convention Center.(800) 225-NCGA for information.

May 13–16 Effective Skills For Technical Management. Class, Palo Alto. Sponsored by Integrated Computer Systems. Call (800) 352-8251 for information, (800) 421-8166 outside CA.

May 15–17 The One Computer Show For Every Business. Sponsored by South Bay Computerlands. San Jose Convention Center. Call (408) 294-0431.

May 16 The Future of PC Communications. Seminar sponsored by MicroFlash Inc. on micro-to-mainframe communications. Hyatt Regency/Embarcadero Hotel, San Francisco. $15 registration fee. Call (415) 680-1157 for information and reservations.

May 16–17 Association for Multi-Image MayFest. Review and awards competition at Palace of Fine Arts, San Francisco. Entry forms due by May 2. Contact Ken Burke (408) 727-7500 for information.

May 17 The Direct Marketing Approach. Seminar sponsored by the Software Entrepreneurs' Forum, Dunfey Hotel, San Mateo. $60 SEF members, $95 non-members. Call (415) 854-7219.

May 19 Buying An IBM XT Clone. Seminar by Edwin Rutsch, author of "The IBM XT Clone Buyer's Guide." 7 pm, Lincoln University, Masonic at Turk, San Francisco. For information call (415) 552-8648.

May 20 Automated Accounting. Free seminar featuring Solomon II accounting software, 9 am–12 noon, Hyatt Union Square, San Francisco. Call CalSoft, (415) 397-6901 to enroll.

May 21 Legal Protection For The Software Writer. Workshop sponsored by Bay Area Lawyers for the Arts. (415) 775-7200 for information.

May 23–24 MicroTimes Presents Desktop Publishing Exposition '86. Hyatt Regency, Pacific Room, San Francisco. Free admission. Call Golden Gate Shows, (415) 388-8893 for information.

May 24–25 San Francisco Computer Expo. The Concourse, 8th and Brannan. Contact Golden Gate Shows, (415) 388-8893 for information.

May 24 Network Business Seminar. 10 am–12 noon. Seminar and demo featuring networking, hardware and software products of Novell, Inc. MicroFlash Training Center, 1110 Burnett Ave., Concord. Limited seating, preregistration required. $15. Call Dennis Bowman for information and registration. (415) 680-1157.

May 29–30 Unix in Focus. Seminar, Hyatt Regency, San Francisco. (415) 424-8844 for information.

May 31 Sacramento Computer Swap. Cal Expo. Contact Golden Gate Shows, (415) 388-8893 for information.

June 2 San Jose Computer Swap. San Jose Convention Center. Contact Golden Gate Shows, (415) 388-8893 for information.

June 7–8 Computer Supermarket Show and Sale. San Mateo County Fairgrounds, San Mateo. Call Microshows, (415) 340-9113 for information.

June 10–13 Unix: A Comprehensive Workshop. Four-day workshop. Palo Alto. Sponsored by Integrated Computer Systems. Call (213) 417-8888 for information.

June 14 CADCAM Business Seminar. 10 am–12 noon. Seminar and demo featuring AutoCAD software and Nicolet plotters. MicroFlash Training Center, 1110 Burnett Ave., Concord. Limited seating, preregistration required. $15. Call Dennis Bowman for information and registration. (415) 680-1157.

June 14–15. Golden Gate Computer Expo. Oakland Coliseum. Special section: Computers and Accounting. Call (415) 488-8893 for information.

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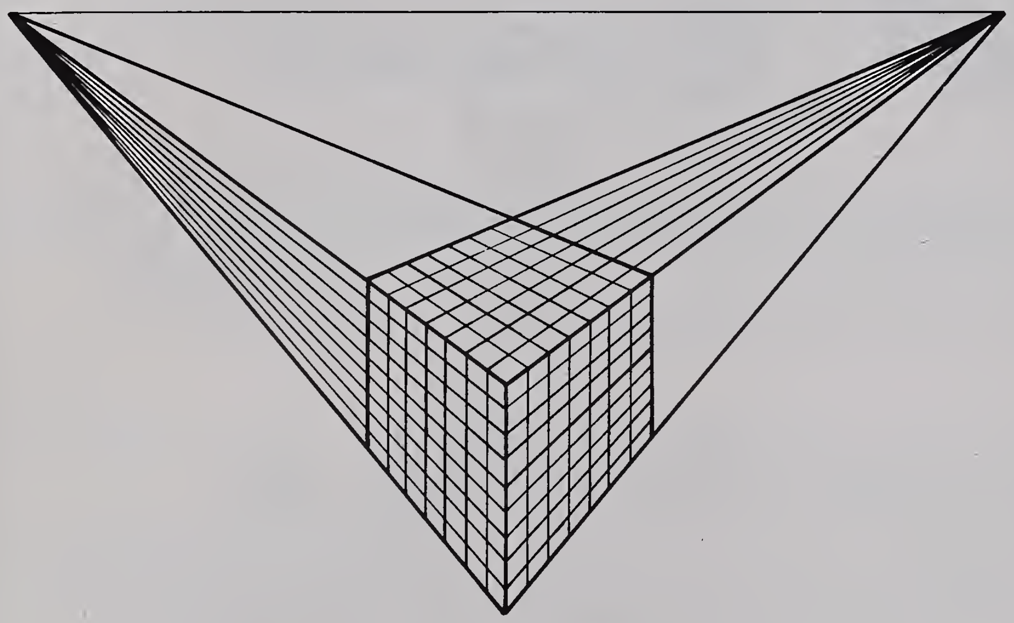

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BUT JAN LEWIS SAYS . . .

Will CD-ROMs End Industry Doldrums?

As the computer industry waxes euphoric over the potential of CD-ROMs, let's not lose sight of the limitations

By Jan Lewis

When the personal computer industry was young, it seemed that each new product was a strange and fascinating invention that captured the hearts and wallets of the American public. But lately, I've sensed that the industry had reached its excitement tolerance level; new products and companies just don't generate the high they used to.

Last month's Microsoft CD-ROM conference, however, brought back some of that euphoria.

The conference drew together four groups that usually mix as well as oil and water. The computer folks from Silicon Valley and Boston rubbed elbows with Hollywood-New York entertainment executives. Meanwhile, a small pocket of people from the traditional storage products firms in Denver and Boulder toasted the new technology with owlish individuals from the Library of Congress and all major book publishers.

The only group noticeable by its low profile was the Japanese manufacturers. Oh, they were there; every so often one would stop you in the hallway and shove a brochure for some not-yet-existent product in your hand. And Sony, the leader in CD-ROM drives/players, sponsored a few press conferences. But unlike most consumer electronic shows, the CD-ROM conference was not dominated by the Japanese. This is especially interesting in light of the fact that all current production of drives/players is being done by Japanese companies, with the exception of Netherlands-based Philips.

CD-ROM has genuinely captured the attention and excitement of major manufacturers with its potential to bring back astronomical growth to the personal computer industry.

The thread that tied these diverse groups together was a shared sense of excitement in CD-ROM's future. I call it euphoria without product, which should not be confused with hype. Hype usually surrounds a product or technology that can't stand on its own merits. The euphoria exhibited at the conference was for a technology that could very well ignite a new flame in the personal computer industry. CD-ROM has genuinely captured the attention and excitement of major manufacturers.

In the early days of the personal computer industry, companies watched their revenues double and triple every year. When the pace slowed down, high-tech companies went into withdrawal.

But why was the excitement level so high? What is it about CD-ROM that brought out that kind of euphoria? It's CD-ROM's potential to bring back astronomical growth to the personal computer industry.

In the early days of the personal computer industry, companies watched their revenues double and triple every year. Executives were reaching the pinnacle of their careers before they reached their 30th birthdays. Almost anyone with an idea for a new PC product could walk into a venture capitalist's office a pauper and walk out a multimillionaire. That kind of growth and excitement is addicting. When the pace slowed down, high-tech companies went into withdrawal.

The CD-ROM conference was a fix for parched egos. It allowed company executives to get excited about technology for the first time in months, instead of bemoaning the state of the industry. However, the conference euphoria did cause a certain amount of blind-sighting. For example, The Record Group showed a video tape of the titles it expects to produce on CD-ROM—fantastic ideas like an interactive "time machine" that would teach its user about history by showing videos of the events, or a rock genealogy that traces the careers of recording stars. The audience was so enthused it greeted the presentation with thunderous applause.

Unfortunately, no one pointed out the limits of CD-ROM for video. A standard compact disk can only store a few minutes of video. By using compression techniques, manufacturers can get almost two hours of video on a disk, but the quality of that video has yet to be proven.

So for the present, manufacturers looking at CD-ROM technology as the cure for all computer industry's ills had better temper their euphoria with a real hard look at the real-life problems that exist. It is easy to become addicted to something that promises so much, but there's always a chance the CD-ROM panacea will turn out to be a placebo. ☐

Jan Lewis is a well-known industry analyst and president of the Palo Alto Research Group, a consulting firm for the microcomputer industry. This article has been reprinted with permission from Computer Insider, PARG's newsletter.

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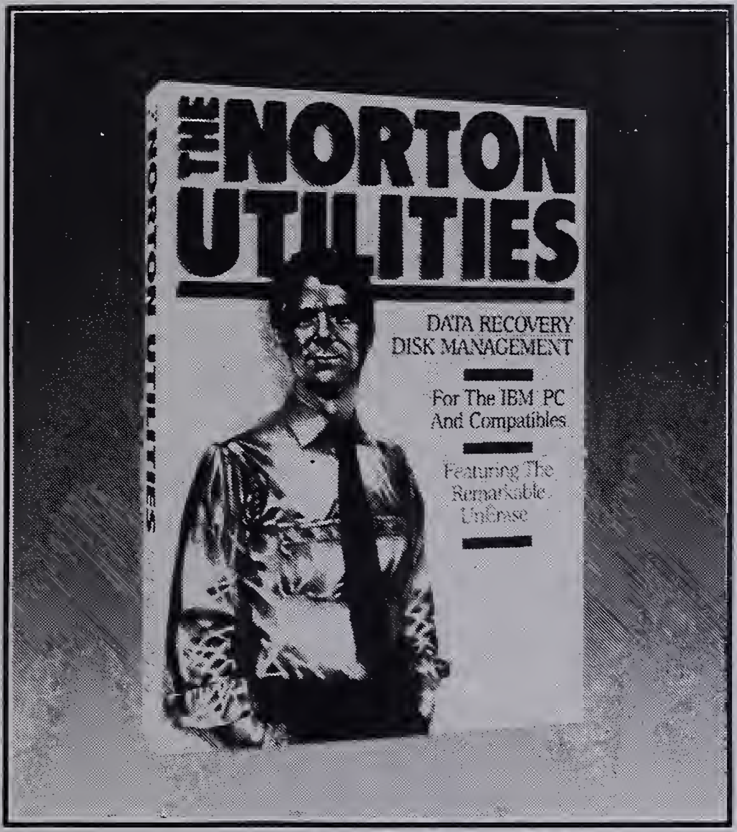

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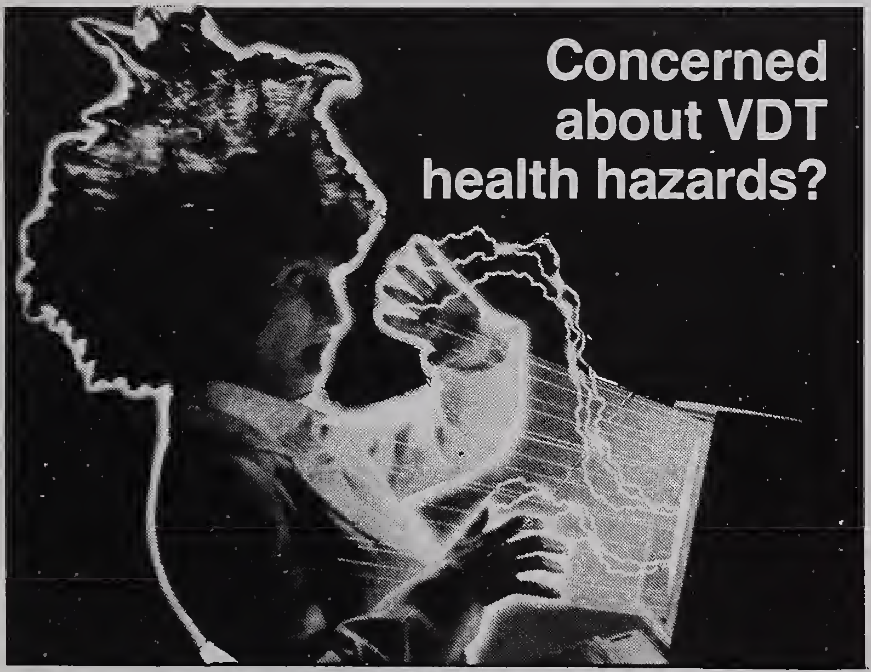
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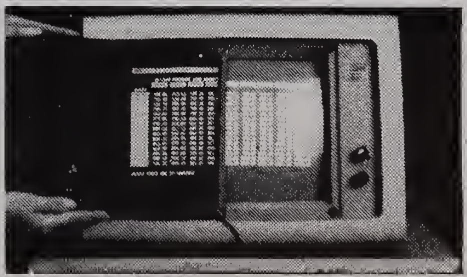

EDIT MODE

Software Shopping Reading Reviews Isn't Enough

By Don Hamilton

When you're shopping for software, you must address two distinct questions: whether a piece of software is good relative to others of the same genre, and whether it will do the job you need done.

Often the most powerful or most recommended software product is not the one that will do the job the most efficiently. Sometimes just being simple is important. Often job specificity is the key factor.

A software reviewer will often give a low rating to a piece of software that does not have multiple functions. Data systems or MIS reviewers in companies will also often rate a good, simple software package poorly for the same reason.

In the corporate setting, simplicity often prevents software from becoming a standard, since a standard must be all things to all people. Companies that need to standarize in order to exchange data with many different units will have to sacrifice the efficiency of individualized tools. This loss will be felt as increased training costs, a longer learning curve, and high prices being paid for tools.

Assessing the suitability of a particular package for a particular need is a formidable task. No one can do it all for you, and it's a time-consuming process. Learning the power of any given software tool is difficult; in most cases the limitation of the tool will not be known unless it is used to its full capacity over a long period. For example, speed may not become an issue until you are faced with a completely full spreadsheet, or a screen refresh with a very large drawing, whereupon the tool suddenly turns out to be inadequate.

This poses a formidable problem, whether you're reviewing a package for publication or for possible purchase. How do you test all the limits of a software program in a reasonable amount of time? The permutations of user situations are so varied that no reviewer is capable of covering all the possible needs of potential users. When do you quit testing and begin to write a review? When do you make a recommendation? If you compare two tools, that doubles the effort.

Many reviewers just look at the areas of concern to them, or base their assessment on a quick look at the function list. A "quick look" can take five hours, which might seem sufficient, but a complex tool can take weeks of study before its true power or weakness appears.

A function review or quick test by an expert can be of some help in deciding what packages to consider. A review to base a purchase on, however, must be much more exhaustive. Such a reviewer must have looked at many similar packages and talked to users. It is probably more useful for the reviewer to spend time with many users than to read the complete instructions and do a short test.

Compounding the problem is the fact that some software companies, often for reasons that seem good to them, make it difficult to review their products. A representative of one company told me of a case in which a writer reviewed an older version of the company's product, comparing it unfavorably to the new versions of other products. As a result, the software publisher changed its review policy, shortening the period for which the reviewer was allowed to keep the software, and requiring payment for software the reviewer does not return. Since an extended evaluation period is often necessary, either for publication or on-site testing, and since few organizations or magazines have the budget to buy expensive software packages on spec, the effect was to deny potential customers access to accurate product information.

Given that limitation, there are ways in which the software shopper can use reviews to advantage. The more well-known product will have a history, reviewers will be familiar with the product, and the upgrades will be easy to access. You are on safe ground, for instance, if you read several recent reviews of Lotus and compare that information with your needs. On the other hand, if a new product has the options or tools that you have been waiting for, reviews must be carefully studied and compared with your own experience.

Companies with good products should try to give them as much exposure as possible. Reviews, on-site testing, word of mouth, and advertisement all help sell the product, and should be used to advantage. ☐

Don Hamilton is a computer consultant, an engineer, and a businessman. He can be reached at (714) 544-1017.

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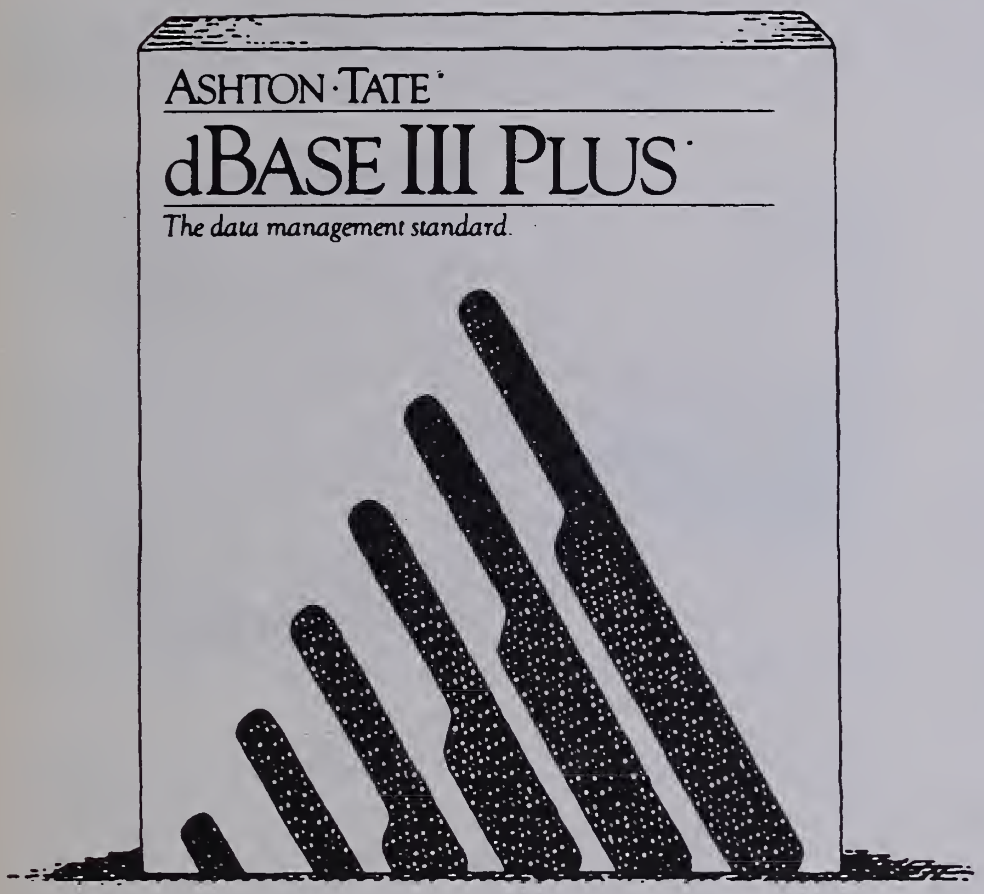

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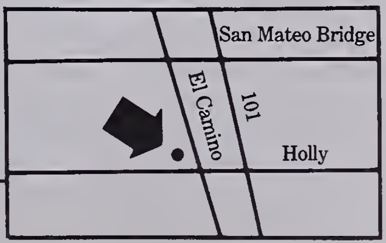


LATE-BREAKING NEWS

Apple University Consortium

Apple Chairman and CEO John Sculley, opened the first international Apple University Consortium (AUC) at Cambridge University, England. He stated that the PC has now entered its second revolution, providing educators with powerful new "intellectual bridges" which will join massive information libraries while bringing together educational disciplines, presenting a true "global village" as this expanding technology helps to shrink geographic and cultural gaps. The three-day AUC conference attracted more than 200 delegates from 100 institutions of higher learning in 37 countries. The AUC has also been expanded by the addition of eight more U.S. universities: MIT, University of California at Berkeley, University of Illinois at Champaign-Urbana, University of Maryland, Drake University, Emory University, and Franklin and Marshall College. Each university has made a $2 million purchase commitment for the next three years, as well as commitments to develop software for the Mac and bringing Macs into the curriculum, data communications and networking plans of each institution.

Microsoft Drops Copy Protection

Microsoft Corp. (Redmond, WA) has removed all copy protection from its *Access* telecommunications program. This was the last software offering from that company in the PC-DOS environment that had maintained a copy protection scheme; pressure from corporate accounts is cited as one probable cause for the protection being dumped.

Sinclair Is No Longer In The Computer Business . . .

Sinclair Research, the founder of the British home computer industry will be sold to Amstrad, a competitor. This announcement does not include two Sinclair ventures, one in communications (joint venture with Timex, an American watch company) and the other a special CHIP Research project backed by Barclay's Banks of London. The rest of the company is to be turned over to Amstrad for a cash price of £5M ($7,500,000).

Amstrad surprised most analysts when pre-tax

IBM Introduces New "Laptop" PC

AGENDA
ASSUMPTIONS
MARKETING FEEDBACK
PRODUCT POSITIONING
MARKETING RECOMMENDATIONS
BENEFITS OF PROPOSAL
SUMMARY

The new IBM PC Convertible feature full portability, MS DOS compatibility, and an optional dot matrix printer.

The one bright spot of an otherwise dull Winter Comdex show in Los Angeles April 1–3 was IBM's formal presentation of their new PC Convertible computer. Visitors to the IBM exhibit on the main floor of the exhibition were offered tickets to a half-hour "hands on" introduction to the PC Convertible. The introduction program was held in a nearby classroom where every attendee was seated before a separate PC Convertible for a quick tour of the new model's many features.

The PC Convertible impressed me as a practical piece of hardware. The keyboard, while compact, is a joy to use, especially for an accomplished touch typist. The feel and layout are very similar to that of a "real" typewriter. There is no room on a laptop computer for a separate numerical keypad, but one is imbedded in the regular keyboard and can be activated by a numlock key. At long last Big Blue has given us separate cursor control keys neatly arranged at the lower right hand edge of the keyboard. The 80 column by 25 row liquid crystal display is easy to read, and in some respects I preferred it to the low resolution standard display on IBM desktop PCs. The display can be tilted to minimize glare and reflections, often a problem with LCDs. The internal battery pack provides six to ten hours of operation. An AC converter and charger is supplied as standard equipment. An automotive power adapter to plug into a standard cigarette lighter socket is available for those who travel by car. An optional internal modem can provide access to the "home office" IBM system by telephone connection on either 300 or 1200 baud.

A dot matrix printer is available. The printer can be attached directly to the back of the computer or connected by means of a cable. The latter may be the preferred mode since the system footprint becomes excessive with the printer behind the computer. In either mode, the printer operates from the system battery or accessory power supply. The printer gave good text or graphics output, but it was slow.

The PC Convertible comes with two internal 3½" disk drives. An external 3½" drive is available as an option. The external drive is hardly needed for "on the road" operation, but could be a must in the "home office" where it can be plugged into any IBM desktop model to provide data interchange between the 3½" portable disks and the 5¼" or hard disks of the base system. The PC Convertible runs on a DOS that is completely compatible with that of the desktops. Where copyrights and disk protections allow, software from the home system could be downloaded via the external drive to 3½" disks for use on the road.

Since the PC Convertible runs MS-DOS, only very minimal training is required for an operator accustomed to using an IBM or clone desktop system. When the system boots up, the operator is confronted with a set of ten icons, each depicting one of the programs available such as Notewriter (an abbreviated word processor), scheduler, address book, or the DOS "A" prompt. Each icon is numbered, and pressing the corresponding function key leads one directly to the program selected. While we appreciate the convenience of icons where they really speed or simplify operations as they do on the Macintosh, those on the MS-DOS strike us as strictly gimmicks or icons for the sake of having icons. A simple menu would be easier to use. I hope that IBM sticks to functional software for adult users and avoids the "kid stuff."

The PC Convertible is obviously aimed at the traveling business person who needs access to his personal and/or the home office computer while he is on the road. The extent of this market has been questioned recently by a number of market analysts who feel that it is very limited and perhaps already approaching saturation. Obviously IBM is bullish on this market, and I tend to agree. By introducing a truly portable system that is completely compatible with the home office system, IBM may be actually enlarging the market for portable systems.

The "Convertible" name on the new product supposedly means that it can also function effectively as a desktop unit while the user is in the home office. For users who don't care for the LCD display, IBM offers either color or monochrome displays that attach directly to the portable chassis. Any other IBM compatible display can also be connected to the portable. For office use, any standard printer can also be substituted for the portable printer.

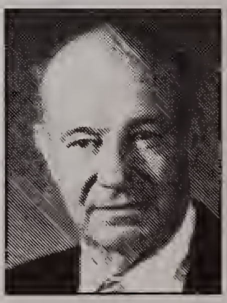
By bringing full MS-DOS compatibility to a portable system Big Blue may be setting another industry standard. We understand that one other major manufacturer of laptop systems is dumping all of its remaining CP/M based units to a liquidator and replacing them with MS-DOS units.

While the PC Convertible is the first IBM unit to use 3½" disks, we can expect to see them on other desktops in the near future. One XT unit shown at Comdex had an internal 3½" and a hard disk. Sometimes even Big Blue has to follow the industry trends.

We will look forward to seeing the neatly packaged, 14 pound IBMs being carried through airports in the near future. As for actually using them in flight—if you are sitting in first class and are very slim, possibly.

Possibly as restitution for the sin of the original atrocious keyboards on their entire desktop series, IBM has introduced a new replacement keyboard that appears to correct *all* of the problems of the original keyboards. Do this and their recently reduced prices portend a change of attitude at Big Blue? If so, we are all for it!

— *John McMullin*



John McMullin died unexpectedly shortly after this story was filed, and his loss is felt by family, friends and colleagues.

In addition to enjoying a varied and successful career in technical fields, John was a frequent contributor to **MicroTimes** *from its earliest days; his articles consistently reflected an enthusiasm with personal computing, a strong advocacy for users—and a particular zeal in keeping the Epson QX series alive and growing after the machine was discontinued.*

We found him a valued writer and a congenial member of the **MicroTimes** *team, and we too will miss him.*

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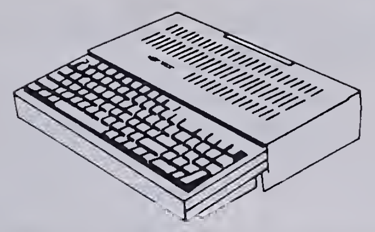

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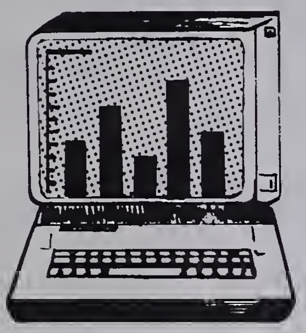

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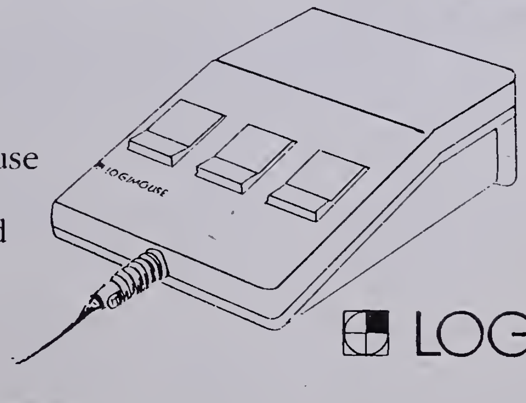

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profits for the last six months of 1985 amounted to £27.5M ($40,000,000), a 31% increase over the prior period. It is stated in a copyrighted article in the *Financial Times* that Sinclair's major problems were reliability and bad marketing direction with the announcement of the "QL."

Apple Earnings Up

Apple Computer, Inc. (Cupertino, CA) reported second quarter earnings in the range of 31.8 million, nearly three times that of the $10 million reported during the same quarter last year.

Kapor Leaves Business Division

Lotus Development Corp. (Cambridge, MA) has announced that company founder Mitch Kapor has resigned from his duties as the Business Products Division's general manager. He will be succeeded by Daniel McMillan, the current publisher of *Lotus* magazine. Kapor will remain as chairman of the company ... and for the first time in the company's history, Jazz Release 1A has been reduced to $395 from $595.

R:BASE For IRS

Microrim, Inc. (Bellevue, WA) has announced that its *R:Base 5000* database management software and Program Interface products are included in the Internal Revenue Service's $27 million portable computer contract, recently awarded to Zenith Data Systems. The Microrim products were the only database-related products included in Zenith's bid.

Ashton-Tate/Zenith Deal

Ashton-Tate (Torrance, CA) has signed a licensing agreement with Zenith Data Systems to supply approximately 90,000 units of *dBASE III, MultiMate 3.3* Series and *dBASE II* products. This three-year agreement will find Zenith serving as an OEM for Ashton-Tate as part of the former's contract to supply the government with about 90,000 units of its microcomputers. ZDS will reproduce all products and documentation and distribute them to the Armed Forces.

Commodore's New CEO

Commodore International Ltd. (West Chester, PA) has named Thomas Rattigan as that company's new CEO, replacing retiring Marshall Smith.

HyperDrive: Price Cuts, New Model

General Computer Corp. (Cambridge, MA) has announced a $300 price cut on both HyperDrive models. The 10 MB HyperDrive has been reduced by $300 to $1,399, and the 20 MB model has been reduced by $500 to $1,699. The company's new Macintosh Plus-compatible version, the HyperDrive 2000, has started shipping, with a price of $3,199. Owners of current HyperDrive drives can purchase a $1,899 package that will upgrade current drives to the new 2000. The HyperDrive 2000 features both a high-performance coprocessor board and hard disk drive for both the Mac and Mac Plus, giving the computer a supplementary 12 MHz 68000 microprocessor that doubles the Mac's internal processing speed. Another 1.5 MB of RAM plus a floating-point 68881 coprocessor complement the 20 MB hard disk in the HyperDrive 2000.

Software Publishers Present Awards

The Software Publishers' Association met in San Francisco last month. At a special banquet, the following SPA "Excellence In Software" awards were presented.

Best Software Product
Windows
Microsoft

Best Business Product
Excel
Microsoft

Best Productivity Product
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Where In The World Is Carmen Sandiego?
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Grolier

Best Sound
Deluxe Music Construction Set (Macintosh)
Electronic Arts

Best User Interface
Windows
Microsoft

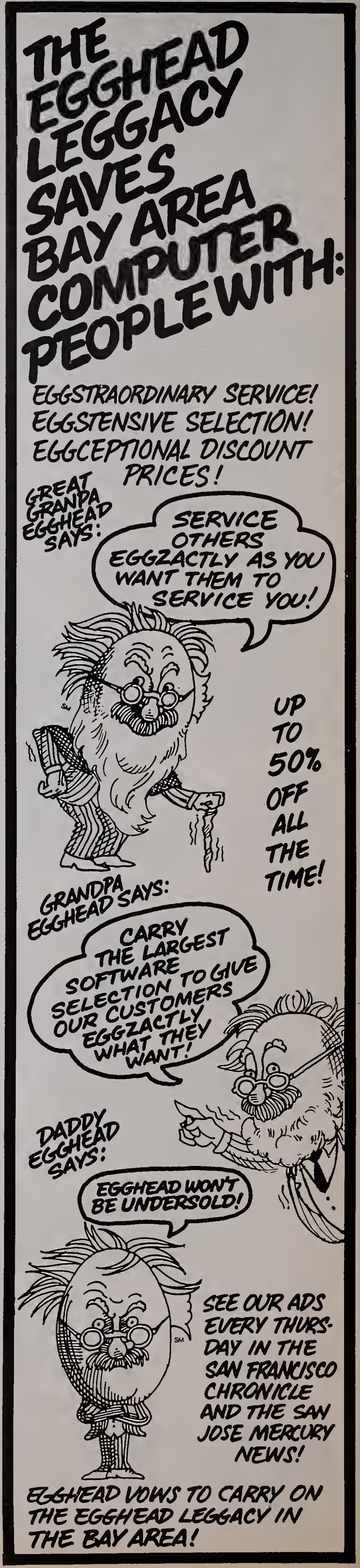
Best Adaptation To A New Computer Format
One On One (Amiga)
Electronics Arts

Best Graphics
Deluxe Paint
Electronics Arts

Best Technical Achievement
Windows
Microsoft

Best Software Packaging
Jazz
Lotus

Hartley and Patricia Lesser are veterans of computer publishing, having published over 500 feature articles and reviews in computer magazines worldwide and assisted in founding four national computer publications, including inCider. *They have also worked at* PC World, Softalk Publishing, *and several other publications, and founded two online computing magazines,* MicroToday *and* Corporate Computing. *They currently publish and edit* Computing Today! *a weekly computer magazine on the GEnie personal network and the NewsNet business network. They can be reached at (415) 828-1528.*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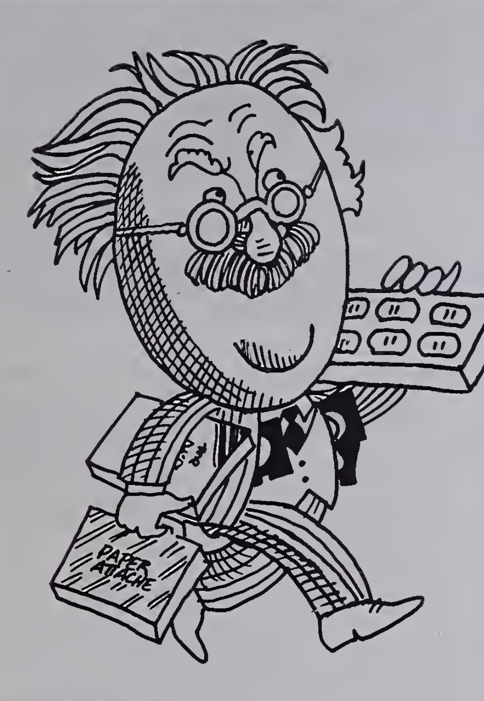
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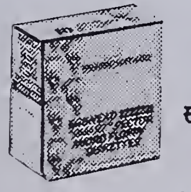

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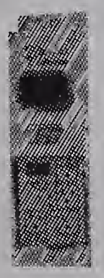

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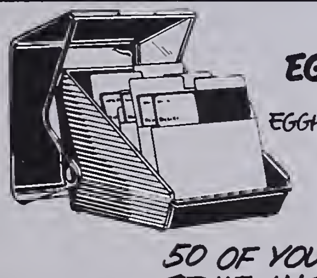

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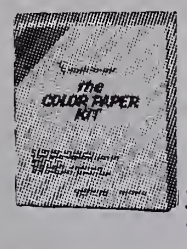

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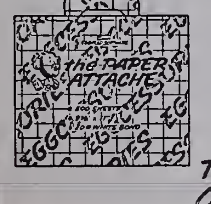

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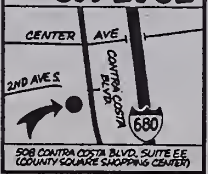
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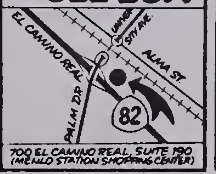
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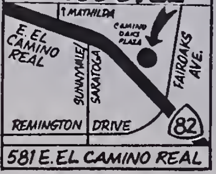
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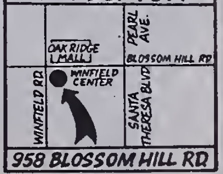
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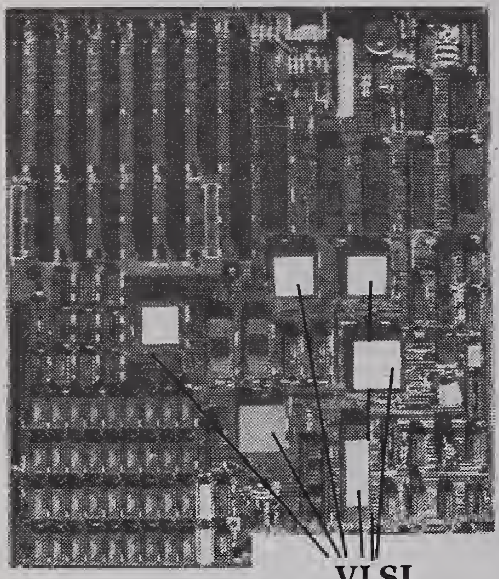

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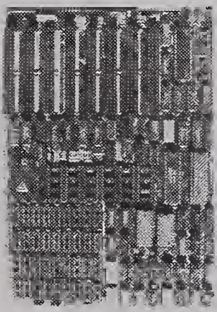

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IBM Chairman Resigns

IBM (Rye Brook, NY) has announced that its current Chairman, John Opel, will resign, effective June 1st. John Akers, the company's current President and CEO, will step into that position.

INTEL's Military Contract

Intel Corp. (Folsom, CA) has been awarded 31-month, two-phase valued at $4.8 million from the Air Force Aeronautical Laboratories (AFWAL) Avionics Lab, Wright-Patterson AFB, Ohio. Its objective is to extend the performance and temperature range of Intel's advanced 4-megabit bubble-memory device for airborne and space applications, as well as to determine density upgrades to the 16-megabit levels. Standards for bubble-memory devices for military applications will also be established.

What's Happening?

Upcoming shows and seminars of interest to business users and computer professionals in the Bay Area:

Everything For Business: South Bay Computerland stores present "The One Computer Show For Every Business," May 15 – 17 at the San Jose Convention Center. Exhibits and seminars will address the needs of the business computer user. Exhibitors include IBM, Apple, Commodore, Zenith, AT&T, SSI Software, AST Research, BPI, Okidata and Ventel.

Instructional seminars will run continuously throughout the show. Among the topics: IBM on PC networking, IBM presenting the new PC Convertible, Apple on desktop publishing, Commodore on Amiga, AT&T on Unix, Computerland on how to select the right software and hardware products for your company's needs, and SSI on *WordPerfect.*

For information call (408) 294-0431.

Micro-To Mainframe Communications: MicroFlash Computer Systems will be hosting a seminar on "The Future of PC Communications" at the Hyatt Regency in San Francisco on May 16. The seminar will discuss the trends and technology of micro-to-mainframe communications. A panel of industry leaders will address the technical questions of attendees, who are urged to submit their questions prior to the seminar to insure proper consideration.

Participating companies including Digital Communications Associates/Forte, Lotus Development Corporation, Meridian Corporation and Microsoft will demonstrate their latest communications products.

Two half-day seminars will be presented to accommodate as many people as possible. Participating corporations will donate major door prizes for each seminar. Reservations are required; registration fee is $15. For reservations and information call MicroFlash at (415) 680-1157.

Software Marketing: The Software Entrepreneurs' Forum sponsors an all-day seminar on "The Direct Marketing Approach" to selling software products May 17 at the Dunfey Hotel in San Mateo. Ray Jutkins of Nelson, Panullo, Jutkins Direct Marketing, a 20-year veteran of the direct marketing field, will present his eight-point recipe for planning and executing a direct marketing program and answer questions.

Cost is $60 for SEF members, $95 for nonmembers (lunch and materials are included). To register call SEF at (415) 854-7219.

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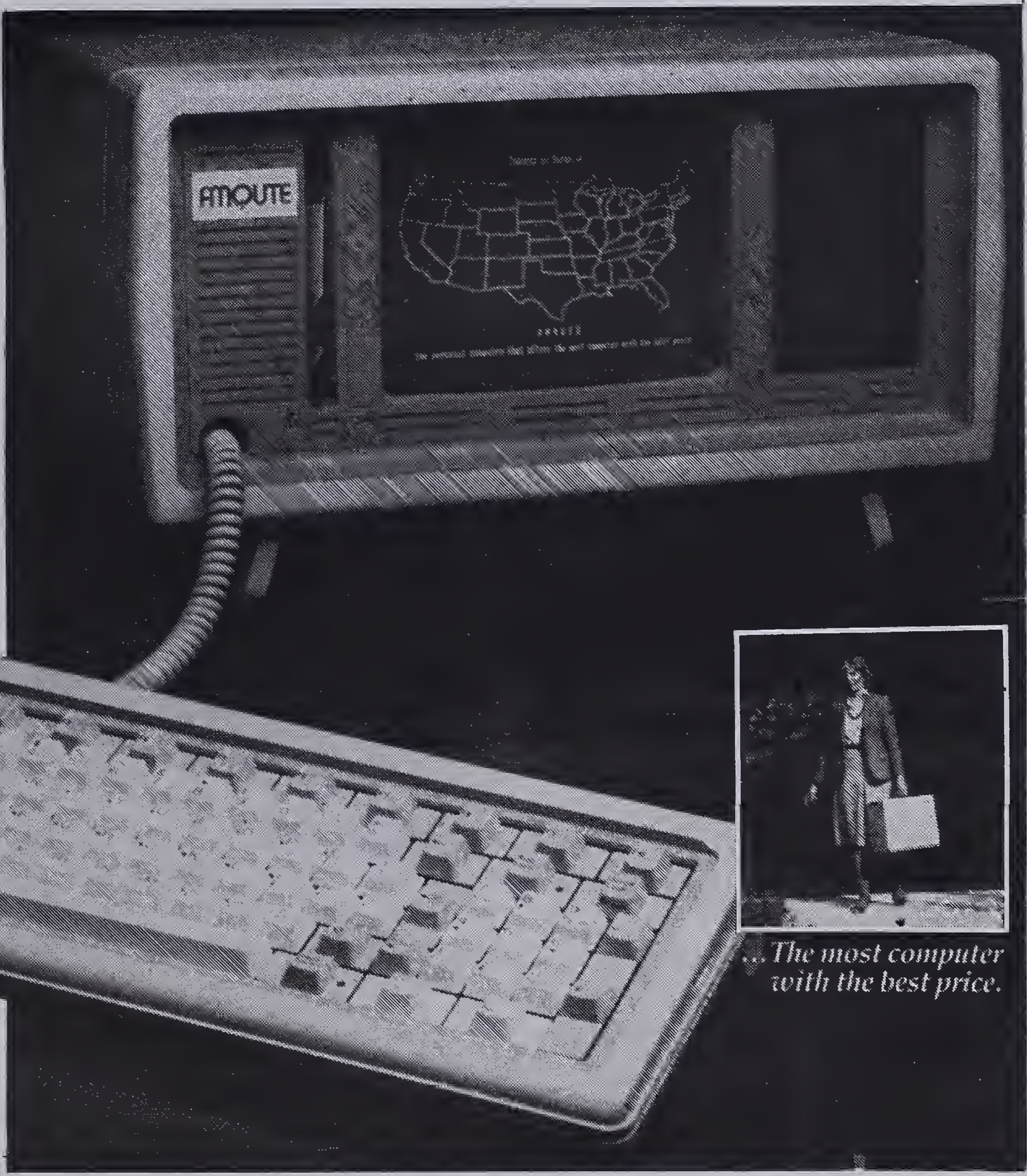

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DHA's FastPak

Common-Sense Business Software

By Paul Hoffman

FastPak Mail

PHOTO: DAVE LEPORI

Dan Lynch (l) and Doug Haylock of DHA Systems and Software with FastPak Mail, a common-sense solution to business needs.

Some software companies spend years searching for a perfect idea that no one's ever done. Others try to make their software look just like someone else's. DHA Systems and Software started writing software when its founders realized that the accounting packages that were available just weren't good enough for their own needs.

Doug Haylock, president of DHA, also owns companies that do printing, graphics, and typesetting. He recalls, "We wanted to automate our accounting, but all the packages we saw were junk. I didn't want to start with junk, so I wrote my own." Haylock's business associates saw the package and wanted copies. Another instance of the time-honored Silicon Valley scenario: a company arose from a need.

There are dozens (if not hundreds) of accounting systems on the market. What did they lack? Haylock explains, "The funniest thing about the packages is that they only do accounting. I own a small business; I could care less about accounting. I want to know where my money is." The packages Haylock looked at would let you enter numbers into ledgers, but those numbers would be meaningless to anyone other than a bookkeeper. Thus *FastPak* was born.

DHA decided to follow the traditional method of having a modular accounting system. Each *FastPak* package will stand by itself if necessary, but will also integrate easily with the other parts. DHA has recently released the first portion of the suite of programs, the *Business Mail System*, whose suggested list price is $79.95. Haylock recalls incredulously, "I was amazed that some of these accounting programs would take in names and addresses, but wouldn't let me use them for a mail list. If my accounting package knows that someone owes me money, it should at least let me write them a letter."

This folksy view of the customer is one of the features that makes DHA's packages popular. Small business owners do not care so much about how well their software does accounting—they want results that can help them. If a program has certain features that are clearly meant for the intended audience, it will sell well. And that's why DHA is meticulously attentive to detail in the features of programs like the *Business Mail System*.

In fact, the *FastPak Business Mail System* lets you do significantly more than just write letters. For example, it works with almost any IBM-based word processing software. While many software manufacturers target a specific piece of software (such as *WordStar*, Microsoft Word, or *Multimate*), DHA realized that, as a small software company, they would be well-advised to support as many packages as possible. Also, why force your customers to stay with the same word processing program forever? *FastPak Mail* lets you pull data from accounting files or create your own, then merge the information with form letters. The *Business Mail System* is most popular among small businesses, although DHA also offers a package for mail-order houses.

FastPak also offers other features for the small businessperson that are unobtainable elsewhere. For instance, *Business Mail System* will purge duplicate names from lists, a feature found on very few of its competitors. Haylock admits that he is a bit puzzled by some of his competition: "At one point or another, everyone has accidentally had duplicate records in files. Doesn't it make sense to help users find the duplicates so that they can take them out?"

The *Business Mail System* has been very well received. In fact, it has become so popular that DHA is now signing up distributors. Wherehouse record stores are now carrying *FastPak* in their software sections. DHA is confident that once people start using the mailing portion of the accounting system, they'll come back for the other modules.

"We don't want to push this out the door as one giant package," Haylock says. "Each module stands by itself, and we want everyone to feel as good about one module as another." Some of the other parts of the accounting system, such as cash management and accounts payable, will be released later this year. The modules will be individually priced, generally around $400 per module. Modules will be added as customers request new capabilities.

According to Haylock, DHA's "small company attitude" will be noticeable in each of the accounting portions just like it is in the Business Mail System. For example, the cash management module will let users reconcile their bank statements. Many accounting packages ignore this, since larger businesses have bookkeepers who do the reconciliation separately from the standard bookkeeping.

Haylock is adamant about this. "I don't want people who buy *FastPak* to worry about debits and credits. Those are accountant's words. I want them to push a button and have it all done for them." He's not worried about putting accountants out of business; he just wants to sell good software that people will like.

DHA is doing fairly well with just the Business Mailing System on the market. There are six employees, two of them programmers. Up to now, most of their sales have been made through advertisements. Now, with their wider distribution, DHA will have more customers who will want more advanced accounting.

"We're also looking at VARs for the accounting modules," Haylock says. Even though DHA is currently writing for the IBM PC, all the packages are written in the C programming language so that they can be easily moved to other computers. Specifically, DHA expects to make the package available on UNIX systems. Haylock jokes about how the first version of the program was written for the CompuPro computer with 8-inch disks under CP/M. "But," he says, "it was a beginning . . ." (DHA Systems and Software, 832 Jury Court, San Jose, CA 95112, (408) 947-1011.) ☐

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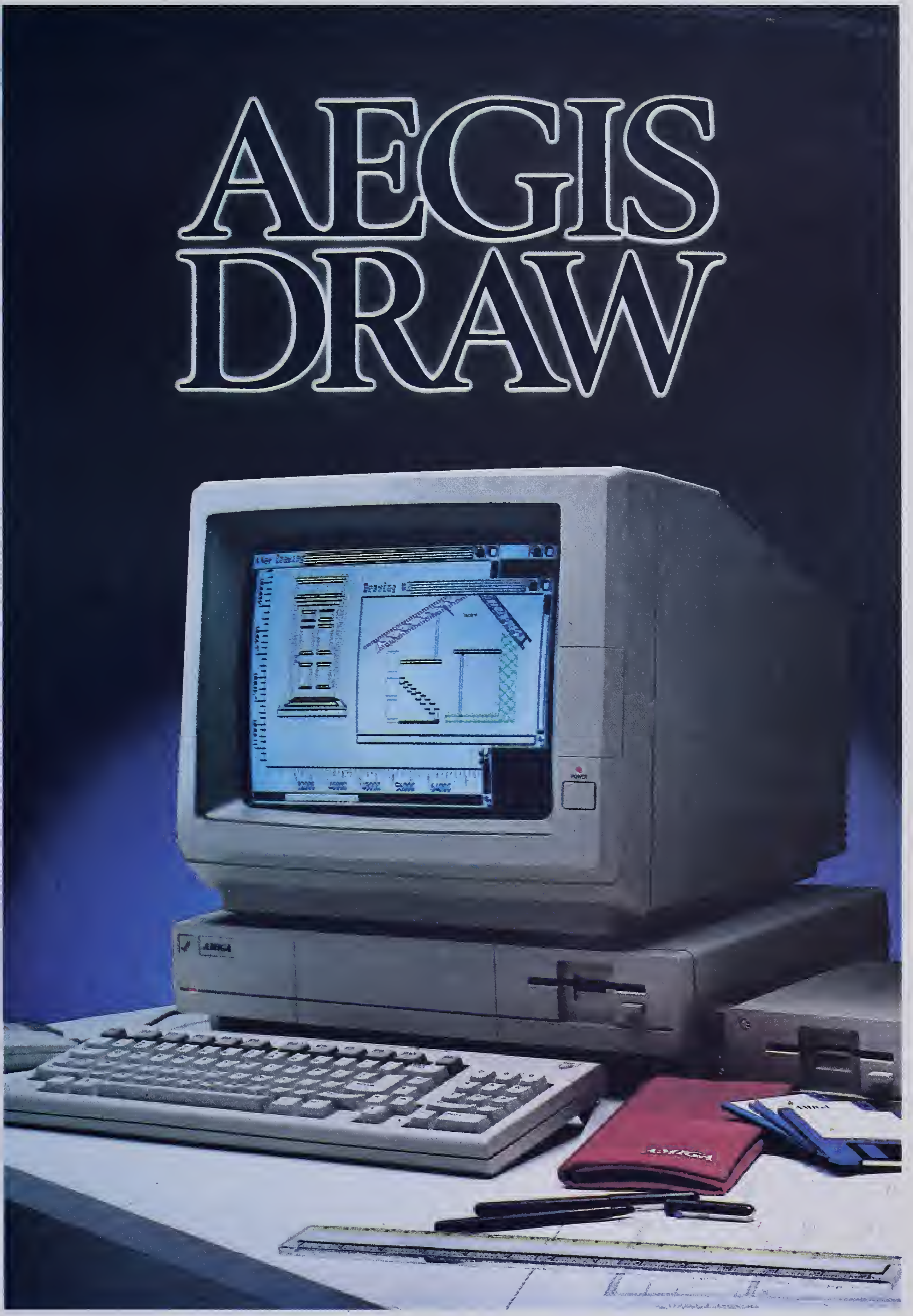

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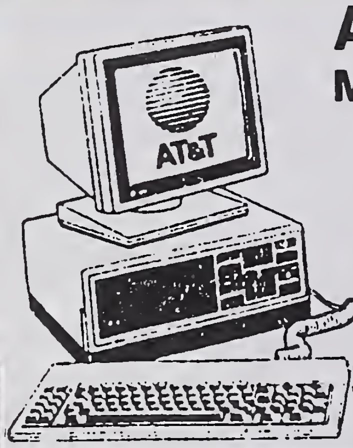

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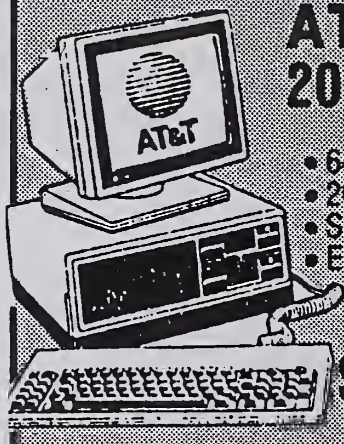

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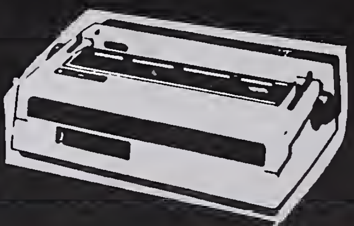

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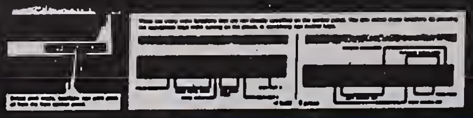

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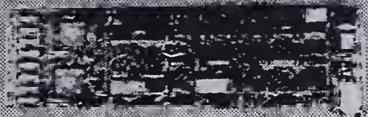

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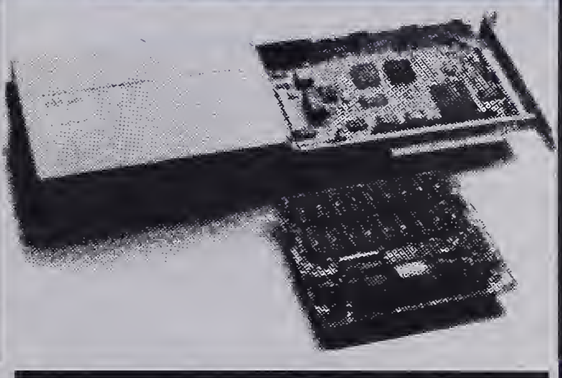

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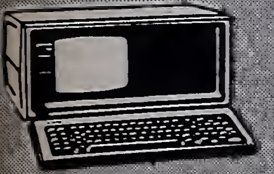

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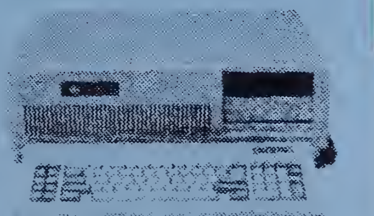

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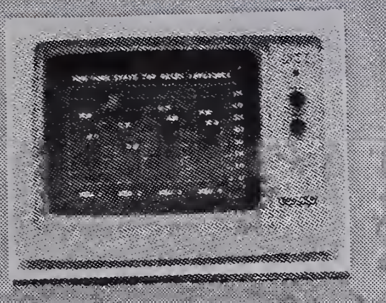

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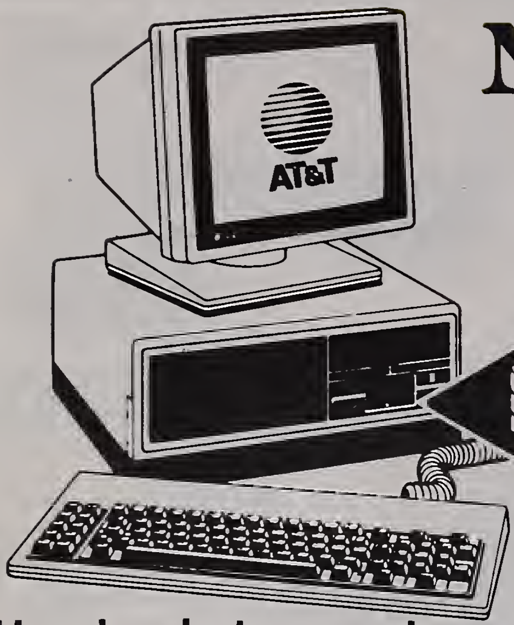

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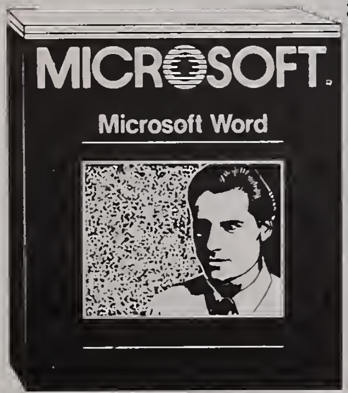

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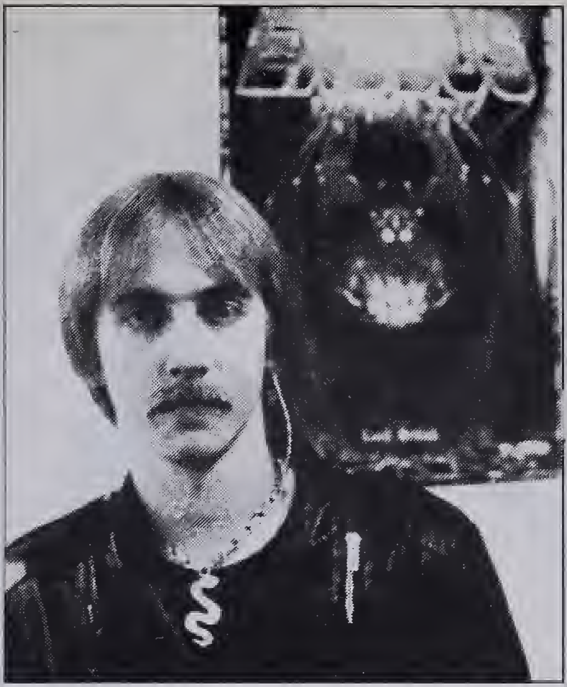

Born in Cambridge, England, but raised in Houston, Texas, Richard Garriott was nicknamed "Lord British" by his high school classmates (who were amazed by his habit of saying "hello" instead of "hi"). He used the name for his characters when he started playing *Dungeons and Dragons*, and continued to use it as his *nom de computerre* as he became one of the most successful designers of fantasy role-playing games. His accomplishments include designing the popular *Ultima* series and co-designing the new release *Autoduel*. We recently had an opportunity to speak with him about his work.

> **"I don't believe that movies and games have a major adverse effect on anybody's life. But I think it's important to write so as to not reinforce negative things. For example, in Ultima IV we played down the stealing, which is a major device in a lot of games."**

What was your first computer?

An Apple II, before the plus. Until recently I worked on a very souped-up II+. Now I mostly use a IIe with everything: an accelerator, and the new 3.5" drives, and extra RAM. Recently we standardized on the Merlin assembler running under ProDOS.

Can you talk about any current projects?

Ultima V should be out in a year to 18 months. We've been working on it for about a month. It will use bit-mapped graphics, so that, for example, when you fire an arrow, you will see the arrow shape move across the screen, not just a blob of light.

Will it still fit into 64K of memory?

Yes. The main code will be more modularized. It's entirely in assembly language. The "world" will be twice as big; it's made up of 512 "tiles" rather than the 256 "tiles" used in *Ultima IV*, for example.

Will the game be translated for other machines than the Apple II family?

Yes. On the Apple IIe we may have to use the extended memory for the music and sound effects.

How important is sound in a computer game?

You try to envelop as many senses as possible in a game, but you have to make the sound believable. A good example is [Electronic Arts] *One On One* on the Amiga. They actually went out and recorded the crowd noises at a basketball game. When you sink a good shot, you can hear the crowd go wild.

Do you play other designers' games?

I used to, but not lately. There's been a bad void of role-playing software lately. The kind of games I like to play aren't as involving as something like *Ultima* — I like short adventure games.

Will the 68000-based computers like Macintosh, Atari ST and Amiga radically change the kinds of games that we'll be seeing?

Not yet. The problem we have is that a viable, marketable product needs a big audience. The current games push the 8-bit machines to the limit of performance, but if we developed something like *Ultima* for the Amiga, using all that power, the game couldn't be converted back for the 8-bit machines — not without completely re-writing it.

Richard Garriott, a.k.a. Lord British, is currently one of the world's most successful designers of fantasy role-playing games.

When do you think the 8-bit computers will reach a dead end for game design?

Not for two or three years, easily. Look at all the current enhancements for the Apple II, for example. The 6502 microprocessor may only run at 1MHz, but it has a very streamlined instruction set.

What would you like to see in the next generation of machines?

My philosophy on how to design a computer? Well, start with a good fast processor — it doesn't matter which one. You need a good graphics chip like the Amiga and the ST have. You need a good sound chip that supports realistic stereo sound. And of course, a lot of memory — at least a megabyte. You don't really need a lot of ROM.

Do you see any potential for games in the laser compact disk (CD-ROM) technology?

Not yet. The realistic video is great for games, but the seek time is still too long. You need a drive with multiple read heads — at least two or three heads. With one head, you have your character come to a fork in your maze, and when you decide to go left or right there's that noticeable delay while the drive loads the next picture.

What's your feeling about violence in games?

That's been a running issue. I don't believe that movies and games have a major adverse effect on anybody's life. But I think it's important to write so as to not reinforce negative things. For example, in *Ultima IV* we played down the stealing, which is a major device in a lot of games.

What advice would you give a would-be game designer today?

Much different from what I would have given one or two years ago. It's getting harder. A good idea isn't enough now — quality and professionalism are much more important. You need the expertise of a publisher to work with you from day one.

If you finish an entire game on your own, the odds are it won't be marketable. The thing to do is *start* the game — design the world and get the graphics down. Then send the idea and some brief code around to the publishers. ☐

APPLE OPENS UP

Fervor and Zeal In Cupertino

Just in case Guy Kawasaki loses sight of his mandate, his license plate will remind him. Portent of things to come: v.p. of research and development Jean-Louis Gassee's license plate says "Open Mac."

"This is Guy Kawasaki. How come you guys never write about Apple?" said the voice on the phone.

Stung by this blatantly unjust accusation, we retorted, "What are you doing Wednesday?" And so it was that we found ourselves in Kawasaki's Cupertino office some days later.

Guy Kawasaki is Apple's Manager of Software Product Management. If they had a Head Cheerleader, he'd probably be that too. Three years ago he came to Apple and became the second Software Evangelist for the Macintosh division. His responsibilities now include overseeing the Evangelism Group, which works to insure the plentiful supply of software for Apple's machines. The license plate on his car reads "Mucho SW," and the Evangelists pursue this objective with zest. Also with considerable success — Kawasaki points out that two years after the Mac's nearly software-less introduction, there are over 1200 applications available for the machine, a fact which greatly strengthens its position in the marketplace.

Describing himself as "one of the last bastions of irreverence at Apple," the irrepressible Kawasaki cheerfully discussed the unique evangelism program, its underlying philosophy, future product directions for the company and its unusual relationship with the third-party community.

By Mary Eisenhart and Paul Hoffman **Photos: Jim Marshall**

How long have you been with Apple, and what brought you here?

I've been with Apple for three years. I came to Apple from an educational software company called Edu-World. I was there six months, and prior to that I was in the jewelry business.

That's quite a transition. How did that happen?

I knew a guy at Apple, and he convinced me that the personal computer business was the place to be. [Laughs]

I bought an Apple II and *Apple-Works*, and here I am today. Actually, it wasn't *AppleWorks*, it was *Quick-File* in those days.

I started as Apple's second soft-

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> *"There's really only two reasons to do software for Apple. The first reason is to make money. The second reason is because you like Apple and you want Apple to succeed. Most of our developers have both qualities, though either would suffice."*

ware evangelist. Back in late 1983, we basically went to about 150 companies and showed them prototype Macintoshes, demonstrated *MacWrite* and *MacPaint*, and convinced them to do software for Macintosh.

How did you convince them?

It was mostly a combination of fervor and zeal. At that time everybody was sort of flush with cash from Apple II and IBM PC software, and they were looking for the next standard. They were afraid of overdependence on MS-DOS software. It was the right time for another revolutionary, standard-setting computer. And that was Macintosh.

Who did you have the best luck convincing — current IBM people, or current Apple II people?

At that time there were very few pure IBM software companies. So it was mixed, not a clear trend. The pure IBM software company wanted to be on Apple and IBM. The Apple software company already *was* on Apple and wanted to do more business with us.

So the software evangelism program dates from the Macintosh period and not from the Apple II period?

Mike Murray, who was the director of marketing for the Macintosh division, coined the phrase "software evangelism." There were people who were doing similar functions, but no one had ever titled it software evangelism.

You just felt that Macintosh required a different approach?

Yeah, it was definitely a little bit of a kamikaze spirit there. We were hitting the beach, taking ground. It was definitely that mode. 'Cause we didn't pay anybody to do software. It was fervor and zeal.

Once you convinced them, how did you keep them working?

There's really only two reasons to do software for Apple. The first reason is to make money, and that's what was driving them. The second reason is because you like Apple and you want Apple to succeed. Most people have both qualities, though either would suffice.

We didn't really *keep* them developing, because it was the financial rewards that motivated them. That's actually a better motivation than if they'd been paid or given financing up-front. At some point, when you've been given up-front financing but you don't really believe in what you're doing, there's a lack of, like, the home-run aspect. And you say to yourself at some point, well, the up-front financing is barely covering what it's costing me to do this, plus the operating cost — maybe I should kill this project.

We didn't have that problem.

In the early days, how did you recruit people to develop software?

We descended on their offices, or they flew here, we got them under non-disclosure, we showed them . . .

It was very funny. The first thing

Del Yocam's Market-Driven Strategies For Changing Times

Apple Executive Vice President Del Yocam is the company's Group Executive in charge of Product Operations. As such, he oversees all the company's product-related functions, which include not only software evangelism but everything from research and development to marketing.

He dropped by as we were talking with Guy Kawasaki, and offered some insights on Apple's continuing evolution and its strategy for dealing with a changing computer market.

In the past, we've been a hardware assembly house, and now we're trying to focus not just on hardware, but software, data communications, information services. We're raising, within the organization, the focus on all of those areas. By having all this under one umbrella, we've got hardware and software and datacomm all represented so that we can, together, make the appropriate decisions.

I think we've tried to articulate our strategy of having two product line families, each with multiple design centers, and building on that. But we also believe that we're in the second stage of our industry growth. That first stage can be characterized as being a hardware stage, say the first eight to ten years — I don't know exactly where that transition occurred. But a lot of competitive, first-on-the-block purchasers, innovators, a lot of that type of thing.

We're really in the second phase of growth as an industry, which is a much longer-term growth phase. Not as dramatic as that first one, but a much longer-term growth. And that's going to be characterized by *solutions* — software solutions, systems solutions, by having the right tools. So the focus is on having the right software that is really solving the user's needs.

I think you're going after the second generation of users, those that really have to see the utility, the viability, the *value* in making that purchase. And it's going to come through a software application that can solve a problem, or help them learn something that they don't currently know, or get information at a faster pace.

These people aren't as concerned about the hardware technology. They're concerned with whether it's going to answer what they need to have done.

I think what you're going to see — they're characterizing the automobile industry as becoming more personalized. I think the personal computer is going to become that way. I think it's going to refine itself to the users, and become very sophisticated.

Is that going to come from the retailers, or is that going to come from you at Apple?

I think it could come from both directions. It'll be market-driven.

We say that we want to be a market-driven technology company, but that implies both directions. We certainly want to listen to the marketplace, but we also have to lead from a technology standpoint. We want to make sure that we are answering, from a software standpoint, the needs of the marketplace, but we want to lead also.

And so there's a lot of evangelism, but I also expect a lot from Guy in making sure that we're on the forefront of what may be the next word processor, spreadsheet, database. Those are the baselines, but graphics, information communications — those are the new areas, and we have to make sure we have the right solutions.

How do you get feedback from the market?

I think in a multiplicity of ways. Certainly we have the typical research type of stuff. But from a marketing and sales standpoint we listen a lot to our customers, and our customers are our dealers. We help them from a standpoint of understanding the right questions to ask their constituencies.

We also try to understand the trends that are appropriate for this particular point in time, like desktop publishing, where we can add value. That's a way we can help lead from a technology standpoint. You're listening to the marketplace, and hoping you're getting into all the right directions within it, whether that's business or education or the consumer market, and at the same time trying to get the technology that's appropriate at the right time so you've got the right value, at the right price range, that you feel comfortable with, and that's going to be accepted by whatever constituency you're going after. ☐

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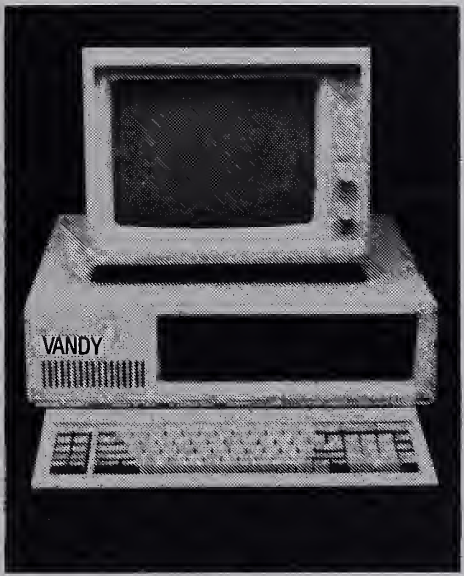

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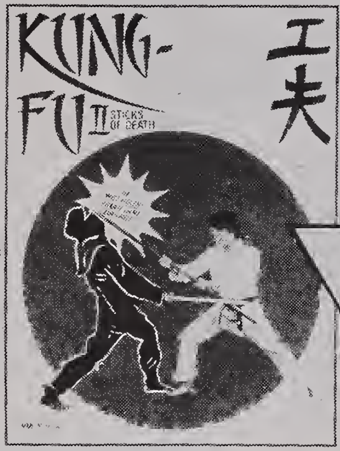
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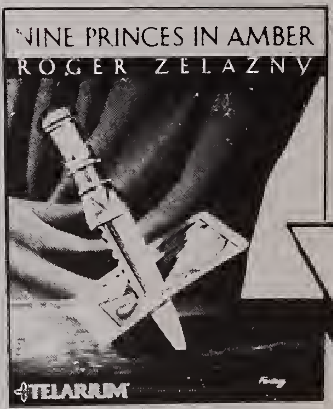
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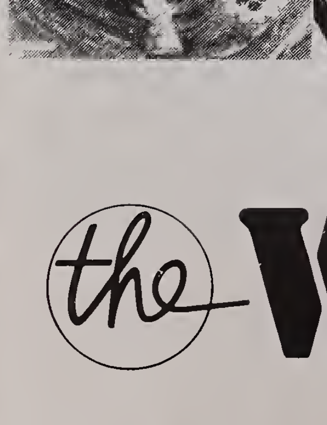

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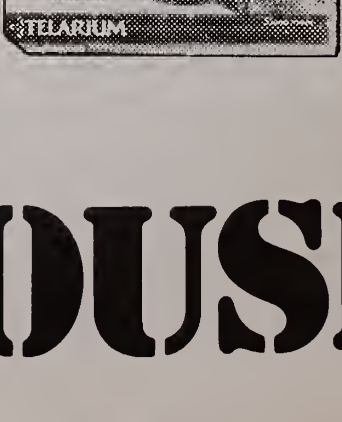
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"And so, hey, let a thousand flowers bloom. My job is to be a gardener. It's a thousand flowers, and they can bloom any way, any color, any fashion they want, 'cause there's always a market for some flower. You have to take that perspective. You start controlling things, saying I want this kind of word processor, this kind of spreadsheet, and you'll just stifle innovation."

they always asked was, how much money will you give us? And the answer is none, ok? So then they'd say, do you have any tools or compilers for standalone Macintosh development? No, not really, you have to buy a Lisa. So the next question was, well, do you have documentation? Well, it's sort of in draft form . . . And those were the things that happened.

And then you'd give them a demonstration of *Paint* or *Write* in its early stages, and BAM! the next question was "When can I have one?" No money, no tools, no nothing. Give me one, I'll do something. And that's how it was, it was magic, it really was. It was a religious experience. It was not buying mindshare, it was religious.

I think our approach has changed, because I think we're at the stage of, let's get a better second generation product. Let's improve *Multiplan* and get it to *Excel*. Let's take *Filevision* and make it *Business Filevision*. Let's get some vertical market software now that the installed base of Macintosh has reached critical mass.

It's not that war anymore, it's more maintenance, or the Marshall Plan, as opposed to the D-Day plan.

What governs which projects you develop in-house and what you leave to outsiders?

We don't develop it inside. We buy it from someone.

The distinguishing factor is if we need a package that shows off our hardware, such as *MacPaint*, which showed off what a Macintosh could do, or if we need a package that the third-party community is not able or willing to provide—the example for that is *AppleWorks*.

MacWrite or *MacPaint* or *MacProject* shows what a Macintosh can do and helps us sell more hardware. *AppleWorks* filled a niche for an integrated Apple II serious business product, which at that time the third party community did not believe they should, or could or would provide.

What kind of things do you encourage third parties to do?

Well, generically, we always encourage people to adhere to our user interface, because we've found that packages that do not adhere to our interface are severely criticized — they're just not accepted.

We want people to try, where it's prudent or acceptable, to always integrate graphics. Macintosh owners and the Macintosh computer are very graphically-oriented. So to have a non-graphic package is sort of — contrary to the religion.

We're also looking for power, power applications — we're not entry-level anymore.

For Macintosh specifically?

For Macintosh specifically. For Apple II our primary direction is educational software. We have a great franchise in the K-12 education market, so we're looking for things like curriculum software, software tied specifically to textbooks, as well as tools that are specific for the education market. A word processor with an outliner for students to do reports, that's targeted for a student market, not a professional market. Perhaps the professional market doesn't need footnoting, but the student market does.

So, for instance, if somebody wanted to do a serious business package for the Apple II, you would not encourage that?

Oh, no, no, no, that's not true.

We fundamentally don't believe that *we* position the computers. The software community positions the computers. Through the flip of a reset button, what was running a game can run a word processor, can design PC boards, can run LISP. So in essence, the diskette positions the machine.

Now it happens that because of RAM or whatever, there are certain limitations in the kind of software that can be used, and therefore in the position.

I guess the way we look at it is that Apple should provide the clay, the tools and the inspiration. The clay is the Apple IIe, the IIc, the Macintosh, the LaserWriter, and AppleTalk. The tools are the technical documentation, the technical support, compilers, sample programs, editors, that kind of thing. And the inspiration is a *MacPaint*, that shows off our hardware. It's an *AppleWorks*, to show the community what can be done with our hardware.

And then it's our job to basically help developers produce a beautiful vase. That's the metaphor.

How successful do you feel you've been in that lately?

I'm happy in the generic sense, of having the best spreadsheet for any personal computer, i.e. *Excel*, and I'm also very happy because we're getting very specialized software for specific markets, such as applications to design PC boards, 3-D modeling software, expert systems from Neuron Data, beauty shop software from Salon Transcripts — very, very specific niche markets.

We would like to have an infinite amount of small-niche software, because it all adds up.

Everybody's looking for the next *1-2-3*—well, it may be easier for us to deliver beauty shop software, CAD software, CAM software, CAE software, CAI software, and all these little packages that add up to much larger than one big hit. The people who want a spreadsheet, a word processing package — that kind of consumer is decreasing. Now it's someone who wants a specific solution.

If you're a board designer, you want a package to help you design boards. You don't really care if it's running on an Apple. You just want something to design boards. So it's my job to make sure it runs on an Apple, so that people buy the software and say a-ha, I guess I have to buy an Apple II or a Macintosh.

But in the case of the K-12 educational market, you've already got a large installed base, and you're trying to get people to keep developing for that market.

They're different parts of the life cycle. With Macintosh we were Marines hitting the beach, we were taking ground. We landed on the beach and we had to institute the Marshall Plan to keep things going.

Well, with Apple II, we already owned the country, we were keeping other people off of our beach. And one of the ways you keep people off your beach is having the best software and protecting it. It's different parts of the hardware product life cycle.

It sounds like Apple is mostly interested in getting the software to protect its hardware.

I wouldn't call it protectionism. We're trying to get software that accelerates or enhances or magnifies the sale of our hardware. It's not a protection thing.

My personality, and the personality of most of the people at Apple, isn't one of protection, defense — it's offensive. My group would rather be the Raiders than the Dallas Cowboys.

So what kinds of things are you looking for?

Taking the logical marketing directions. Once the desktop publishing direction is established, then it's kind of obvious that we'd like higher-end publishing software. We would like higher-end scanners.

The *good* thing is — this is a rare moment, but there's modesty at Apple — we don't really care. We just go out there, and we provide people with technical support and equipment and whatever, and we get out of their way. 'Cause you know, I gotta tell you, no one at Apple in the software evangelism days of Macintosh said, hmmm, we really need something like *ReadySetGo* and *PageMaker*. Believe me, we didn't. One day Paul Brainerd came in and showed us this thing, and we said, that is the greatest thing we ever saw. Don't think we spec'd that, not for a second, ok?

And one day the people from Telos showed up, Bob Foster, and showed us *Filevision*. Huh—do you think we spec'd that? We had no idea. And the next day someone comes in and says OK, I can design a PC board, a circuit board, on a Macintosh, you can send it through the modem to my company and I'll deliver you a price quotation for how much it'll cost to make the prototype for the board.

You think *we* think of things like that? Absolutely not. Our job is clay, tools and inspiration, and get out of the way.

The people who write great software, the companies who develop great software, quite frankly, they have an attitude of you can lead, follow, or get out of the way. When you see *that* in someone's eyes, in a software developer—their attitude is, ok, you don't have standalone development? I'll buy a Lisa. If you don't have a Lisa, I'll port it to my VAX and cut it across and cross-develop it. And if you don't have the technical documentation, I'll disassemble your ROMs. And if you don't have sample programs, I'll write one. And if you don't have a serial driver, I'll write my own, I don't care ... When you see that, all you have to do is get out of the way. That's what you look for.

When you see that fire, that's the kind of person you want. You draft the best athlete, you don't draft for the position you need. And when you're at Apple Computer, you have enough resources that you can draft the best athlete, you don't need to fill this slot.

And so, hey, let a thousand flowers bloom. My job is to be a gardener. It's a thousand flowers, and they can bloom any way, any color, any fashion they want, 'cause there's always a market for some flower.

You have to take that perspective. You start controlling things, saying I want *this* kind of word processor, *this* kind of spreadsheet, and you'll just stifle innovation. And you know what? We are not the best judges of what kind of software should be developed. We should be the best support system. We are an enhancer, a facilitator; we're not a determiner.

How do you make it easier to develop the software and move it along the cycle?

We have very clean programs. We have a Certified Developer Program which people apply to, and there's about 6000 of them now. They receive equipment at a discount and tech support through MCI Mail. Then if they want to go to a higher level there's the Registered Developer Program where they get absolute handholding and unlimited tech support.

Do some people get more encouragement than others from you?

Is that a loaded question?

I mean, what criteria, other than the crazed gleam in the eye, do you use?

If it's a great product. It doesn't matter if you're two people from Dubuque, or if you're the king of a $200 million company from Bellevue. It doesn't matter, it's product.

It's [Apple Evangelist Manager] Alain Rossman seeing a great product. It's going to a user group, and someone from a user group comes up and says, hey, I'm from Smith Software Company, John Doe Software Company, and I have this incredible spelling checker for the Mac.

The rational thing to do, for a Fortune 500 company, is to go to Webster's Dictionary Software Company and say, would you *please* take over your spelling checker to *MacWrite*, and here's a quarter million dollars. That's one model. The other model is—Listen, all you people who bought Macintosh, here's *Inside Macintosh*, see you in six months ...

And at the Monterey users' group, somebody comes up — here's *Spellswell*, Guy, would you like to try my spelling checker? Well, yeah! And it's a great spelling checker. I don't know who those guys [Greene, Johnson Inc.] are, I never met them in my life, I never heard of them, they're not on any Softsel list, they're not calling me to give them a Macintosh prototype — it's like, *that's* the rewarding part of being an evangelist.

Is that the reason you go to so many users' group meetings?

I just love to. I'm one of the last bastions of irreverence at Apple. I like to go out to users' groups, 'cause those are the people who love you.

When I first started going to users' groups, I thought, oh boy, they're going to lynch me. They'll want to know why *MacWrite* is so slow, and they'll want to know why *MacProject* does this, and they'll want to know why *Jazz* was late — all this kind of stuff. But you know, when you get out there, it's almost hero worship. It's the greatest thing. It's phenomenal, and they're very funny. It's really an emotional thing, going to users' group meetings. It's one of the most enjoyable parts of my job.

What do you get out of users' groups? What do you come back with the next day?

I come back — pumped. There are some good technical and nitty-gritty things about things we should do, but it's just good to stay out in the market. It's good to get beat up out there in public.

One of the good things about going out to users' groups is, you appreciate the problems. I have to say, I believe Apple appreciates our customers' problems more than most companies, simply because ... I'm on a network over there, I have a Macintosh — of course I have a Levco board on it with two megabytes — but I have a Macintosh, and I have a *Switcher*, and I know that things crash, so I go through whatever these people go through. I don't like watching the watch icon any more than anybody else does. So you get that attitude working for you.

Do you get a lot of feedback about new products and directions to move in?

Yeah. But you know, honestly, at the users' group, it's more like they ask me, well, when's the 68020 Macintosh with slots coming out, that kind of thing, and you just have to fend those off. We do get good ideas but — I wish I could tell you that I'm so rational that I go out there looking for feedback about products. I go out there for fun. I want to give them two hours of irreverence and humor, and this is their chance to take a shot.

What should we expect to see from Apple as the next Apple-brand software?

Generally you'll just see us enhance it to be more powerful. We're trying to make our software more powerful, and quite frankly, at a higher price point. Everything is power, power, power. No one *anywhere* doubts the ease of use of Macintosh.

What about for the II?

We are doing more enhancements. We're looking for areas that third parties have not gotten into that we think can break open new areas. We're looking for breakthrough products, to open up and expand Apple II sales into areas where they're not today. And I can't really tell you what we're thinking of.

It seems that lately you've been putting less effort into developing your own software.

That's generally the case. You know, we're a two billion dollar company, and a *very* small fraction of that is software. All the money we could make selling software does not come even *close* to all the support we get, and all the good we will get, from helping third party developers.

Are you happy with that?

My fiduciary responsibility is to Apple, so if I believe we should publish a product to open a new market, to cover a hole in the market that no one else can or will fill, or because we can create a new product that other people can write their specific applications on top of — then we should do it.

It depends on how you view the evolution of the software business. If the evolution of the software business is that there'll be only five software companies and they'll each be doing 300 million dollars, and there's a bunch of little two-person program shops who need a publisher, then we should publish more software. But if it's fragmented, and if there's the big guys, and a bunch of 20 million dollar companies and a whole bunch of two-three million dollar companies — then let it stay the way it is. I don't know. I vacillate, frankly. But I have to recommend and do what I think is right for Apple. And in this case, we like supporting third parties to the hilt.

In a sense, when Andy [Hertzfeld] showed us *Switcher*, he was not an Apple employee. It was so great, we bought it. We didn't tell Andy to do *Switcher*. Andy did *Switcher* and showed it to us. No different from the *PageMaker* scenario, or the *Filevision* scenario.

You could make a case for, well, why is there a *MacProject* and another project management software package for the Macintosh? Should Apple kill *MacProject*? Abso-

"The thing is to show us great product — that's where it all starts. It's not the name of the company, it's not anything like that, it's not previous record in the MS-DOS world. It's what you got. Listen, anything that's great, we will look at. We have open minds and open hearts here, because we want open wallets."

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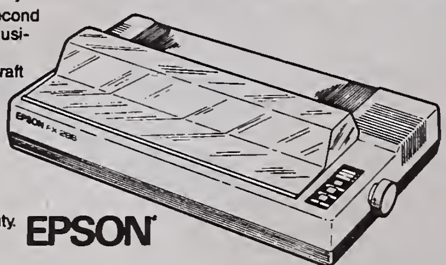

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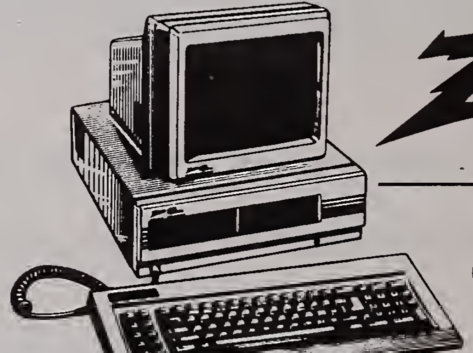

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On the early days of Macintosh: "It was definitely a little bit of a kamikaze spirit there. We were hitting the beach, taking ground. It was definitely that mode. 'Cause we didn't pay anybody to do software. It was fervor and zeal."

lutely not. The more the merrier.

It's wrong for us to bundle *MacProject* with every Macintosh, so that poor guy can't sell any software. One of the accomplishments I'm most proud of at Apple is un-bundling *MacWrite* and *MacPaint*. Because I think that opened up a whole new market for people doing graphics products, and for doing word processors. I think that was a great statement from Apple to third parties — yes, we want word processors, we're not going to give everybody one anymore. From now on — the dealers are happy because now they can sell a word processor, be it *MacWrite* or *Word* or *Jazz* or whatever. And third parties are happy, because fewer people will buy a word processor if they get one for free, surprise, surprise.

What kind of additional features would you be looking for in a word processor?

I would love to see a package that combines *MacWrite* and *MacDraw*. The metaphor there would be — here's a clean sheet of paper, and you can draw or you can type, just like in the real world. I don't know why, if I want to put an organizational chart in the middle of a page, I have to switch between *Paint* or *Draw* and paste it into *Write*. I would like to be able to just click on a rectangle and draw a rectangle. And have type go around it.

How should somebody proceed who's come up with a great product to show you?

Well, first, obviously he can call us. The main Apple number is (408) 996-1010. He should talk to an evangelist, either myself or Alain Rossman, who is in charge of evangelism today. He or she can also reach us through MCI Mail — he's Rossman, I'm Kawasaki. The thing is to show us great product — that's where it all starts. It's not the name of the company, it's not anything like that, it's not previous record in the MS-DOS world. It's what you got.

Listen, anything that's great, we will look at. [Laughs] We have open minds and open hearts here, because we want open wallets.

You put a lot of stress, in your developer literature, on keeping your product open to the international market, not making it too English-text dependent. How important a part of your business is that?

It's about 30% of our gross. It's *very* significant. We strongly stress that you be able to tap both [US and foreign] markets. In Macintosh it's particularly easy to do, a non-technical person could change the menus.

What do the other people at Apple think of software evangelists?

I'll answer that in a general way. Back in the Macintosh days of Steve Jobs, we probably weren't too popular, because whenever we met with a developer who was an Apple II developer, those developers could either do Apple II or Macintosh, so naturally I was trying to get them to do Macintosh, and somebody from Apple II was trying to get them to do Apple II. But all that's changed now.

It happens from luck, good fortune, hard work, whatever, that Macintosh software evangelism worked. I must admit, it was a little slow. But we have 1200 applications today. All the engineers, all the marketing people — they know that Macintosh on Day One had *Paint* and *Write* and *Plan*. And two years later there were a thousand applications.

And so we have that credibility. Every product introduction plan has this chapter about evangelism, which is probably not in any other hardware company's business plan. So this is an accepted thing. I don't know — maybe we're like the most panache of a panache company, but we're all panache here ... We're all like that, it's not that we're this oddball part of the company.

We don't genetically differ from the rest of Apple [laughs], how's that?

Is there an area where you see a critical need for software development that's not happening?

Well, by definition, if I'm doing a good job, I'll say no, of course not, I have everything covered [laughs].

No, but when you go out to the user groups, don't people come up and say, "Why isn't this happening?"

But you know, usually that is happening. I can't always tell them, because either I can't talk about our products or I'm under non-disclosure with someone else. But almost all the things they ask for have been communicated, and have been understood by the companies or Apple, and are being worked on.

Are there areas where you think development isn't happening fast enough, or that more companies should be working on it?

I wish I had the wisdom to tell you that. I don't. I'm a gardener. Big garden, though.

Does the garden ever surprise you?

The garden surprises me every day. It's like, after it rains for two days, you see the mushrooms come up, you say, where'd the mushrooms come from? I swear, we sit here, and we have appointments with people, and they call us up and say, we've got something that will just kill *MacDraw*. And we say suuure, come on in. And you know what? They have it, every day. And some people say, I just can't describe it, I don't know how to tell you what it does. And they come in, and sure enough. That happens every day.

That is one of the best parts of the job — the serendipity, the innovation that's out there is wonderful.

Everybody says the Macintosh isn't open architecture. Well, it may not be an open hardware architecture, although that's debatable too, with what these people are doing. But it was certainly the most open software architecture. We threw prototypes out there to anybody, and we gave them — admittedly it wasn't a perfect world, but we gave them all we could and got out of their way. And that's why you see such breadth of software two years later.

What about peripherals?

Today's Macintosh is closed. There are no slots. That's it. The Apple II has slots, and there's I don't know how many cards and things — it's Beyond Thunderdome, what these people have done.

So that's what it is. If I had, shipping and released and open in public, a Macintosh with slots, we'd be talking about peripherals. Because we'd be talking about signal processing cards, we'd be talking about co-processors, we'd be talking about graphics cards. But — we don't have such a Macintosh and I can't talk about it. Come see me soon.

What can hardware developers do, knowing that the slotted Mac is coming?

You can make sure we know about you. We obviously know about the Quadrams and ASTs. We need to know who they are, because there will come a day when we need to do some evangelism again. Jean-Louis Gassee has on his Mercedes "Open Mac," ok, and that wasn't random error by the DMV.

I can't talk about where and when and how much, but that's the direction we're going.

So when somebody like Levco, for instance, comes up with a really hot coprocessor, they aren't doing it entirely without your blessing.

That's a very tricky word, because of the legal implications of blessing. It's not a formal legal blessing, but, [laughs] Levco is a flower. I've got a Levco board in *my* Macintosh. I voided my warranty. Of course I have a different type of service department [laughs].

Hardware evangelism in the sense of peripherals is something we're going to gear up to and make history. I'd say the bulk of our attention will be on slotted peripherals for the Macintosh.

As for the Apple II, it's amazing what people do. This hard disk on a card — *that's* pretty amazing.

What kind of peripherals can we expect to see from Apple?

The philosophy is very similar to our software philosophy. We do things that are very strategic. Sometimes the market just demands that they buy everything with an Apple logo on it. And though we may be competing with some of our third parties, it's better for our third parties that we compete with some of them and gain acceptance, for instance, into business, than for us to say, ok, we won't hurt any third parties, but we won't be successful in business — 'cause that hurts *everybody*.

AppleWorks hurt some software developers, ok? But *AppleWorks* also sold a lot of IIes and IIcs, and in general, the third-party community is better off that there's an *AppleWorks*, the Pinpoints and those other people who have desk accessories on top of *AppleWorks*, as well as generally, the fact that *AppleWorks* sustained the IIe and IIc sales. Honestly, some people were hurt, in the word processor and spreadsheet and database markets, but in general if we had to do it all over again I think we'd do it all over again.

Do you see the Apple II continuing to be a strong machine fairly indefinitely?

Oh yeah. Oh, we're going to have some Apple IIs that're going to *change your life*. Yes, absolutely. Like Del said, there's going to be two distinct product lines, the 65xxx and the 68xxx, and they're going to just keep evolving along.

How big an issue is compatibility going to be?

Between IIs and Macs?

Well, Gassee has said that he wants hardware compatibility.

I believe that what Gassee is saying is that he wants to be able to take a data file from a II to a Mac. He's not saying that he'd take *Excel* from a Macintosh and stick it into an Apple II and it runs ... It's file compatibility.

The other thing is SKU problems. There should be one disk drive, one hard disk, so the Apple dealer doesn't have to stock two things. Makes sense to me ... And frankly, *we* don't have to stock two things, or build two things. There's a lot of ramifications.

How do you as an evangelist see the market when there are applications or accessories out there that aren't on your computers? Do you wait for them to come to you?

No, we meet with them. But generally these people are so supportive of Apple — they support us. And there are some people, frankly, that we have not shipped or developed a PC of sufficient power for them to do a high-end enough application. There are some people with applications running on the RT that today's Apple personal computers don't have the horsepower for. But that'll be fixed. Those people are waiting for us to deliver that horse to them so they can write their versions on the Macintosh or the Apple II. We do target specific things like that.

But we're also realistic. We don't want to lead these developers off a cliff. In a sense we have this ethical responsibility that we don't go and convince them to do a hundred-megabyte streaming-floppy tape backup for the IIc. I'm sure that if we met with enough hard disk companies we probably could find one to do it, but we don't. It doesn't make sense. But when there is a very powerful version of the Macintosh, we'll be calling them, saying, now's the time, this is it . . .

How do you attract developers who have software products across many different hardware lines?

We basically explain the marketing of our computers and the technical ramifications, and let them decide. You can't force someone to drink water.

Addressing a bigger problem is, what do we do about somebody who's thinking about doing an IBM version, or an Amiga version, or an Atari version, of the Mac or Apple II product? And our attitude is, it's in Apple's best interest that there be a healthy software industry, or third party industry. And if that means you're writing software for other CPUs, then, so be it.

But of course we want Apple first, so take all the money you made on IBM or Atari or Amiga and pour it into Apple development ... Just don't take all the money you made on Apple and put it into Amiga . . . [laughs]

One of people's main gripes about the Apple II is that it's inherently limited in its graphics and sound capabilities, and the Amiga and the Atari are making people increasingly dissatisfied with those limitations. But if you address that need you create problems for the people with current models of the II.

That's one of the trickiest questions, because you try to enhance enough so that you give people a reason to buy a new computer. On the other hand, you don't want to blow up your software base.

And in a sense, you know, Macintosh was totally incompatible with Apple II, we made everybody jump over this big fence.

We always try to maintain compatibility, but at some point you have to make a very binary decision, in a sense. Unless it has a mode where it's running the old stuff and a mode where you can run the new stuff. But that's a very tricky question that's debated constantly. I don't know how to answer it.

Is there a corporate policy on upgrades, and how long you'll keep supporting older products?

I wish I could tell you that it's laid down in concrete in some manual. It's not. What you're dealing with here is empathy and open hearts.

In software, when we release an enhancement, we basically try to make it as painless as possible for people to upgrade to the new version. One factor is guilt, which is, you know, the more bugs we feel we fixed that never should have been, the cheaper the upgrade. On the other hand, if we designed this super-powerful complete new feature and enhancement of a package, then we feel we're almost selling a new product, it's not $10 anymore.

In general the upgrades are done through the dealer network.

The dealers are happy with that?

Yeah, it drives traffic back in the store.

How viable a corporate strategy is "empathy and open hearts"?

[Laughs] We'll see. As long as there's people like Bill Campbell and Del Yocam and John Sculley and Jean-Louis Gassee, it will be a workable strategy.

If you could be a software evangelist at any company other than Apple, is there any place else you'd like to be?

For the right price ... [laughs]

No, really, because I know the people at the other companies. They talk to me, because there are some companies today, quite frankly, that could use some software evangelists.

No, there's no place else than Apple. It has the resources of a Fortune 500 company. It has the consumer awareness of an Apple. It has the support — it's really like a romantic love of the third party development community. Third party developers do not *love* some of the other hardware manufacturers, ok? To put it mildly. Some they put up with, and some they *hate*.

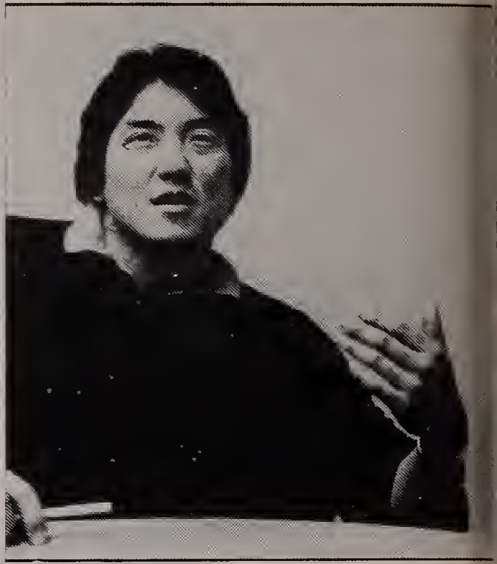
Software evangelism couldn't work anywhere else. You need the money, you need the staying power of Apple, you need the consumer awareness, you need the irreverence of someone like us — you need all those things for evangelism to work, and I don't think that's present in any other hardware company.

There are human beings who run Apple Computer, really, truly. Jean-Louis Gassee is on CompuServe every night. Show me a v.p. of R&D of any other hardware manufacturer on CompuServe every night. Go ahead, make my day. Show me ... Nobody smokes cigars. There's no rooms full of smoke. We make a lot of gut-wrenching decisions here, I have to tell you. About upgrades, pricing, about all these kinds of things. And human beings run Apple Computer.

That's why we go to users' groups, that's why we get beat up on CompuServe, that's why we're on MCI, that's why a lot of things.

The metaphor for us and our developers — it's sort of like where two rivers meet. When two rivers meet, at the intersection it's kind of frothy and bubbly and kind of tumultuous, and there's some turmoil. But about a mile downstream, it's a much bigger, more powerful river.

So that's one metaphor. The other metaphor, which is the one I like more, is that Apple and its developers are like a scissors. We're linked together in the middle, inseparably so. And often we move in opposite directions, but we usually cut up whatever comes between us. ☐



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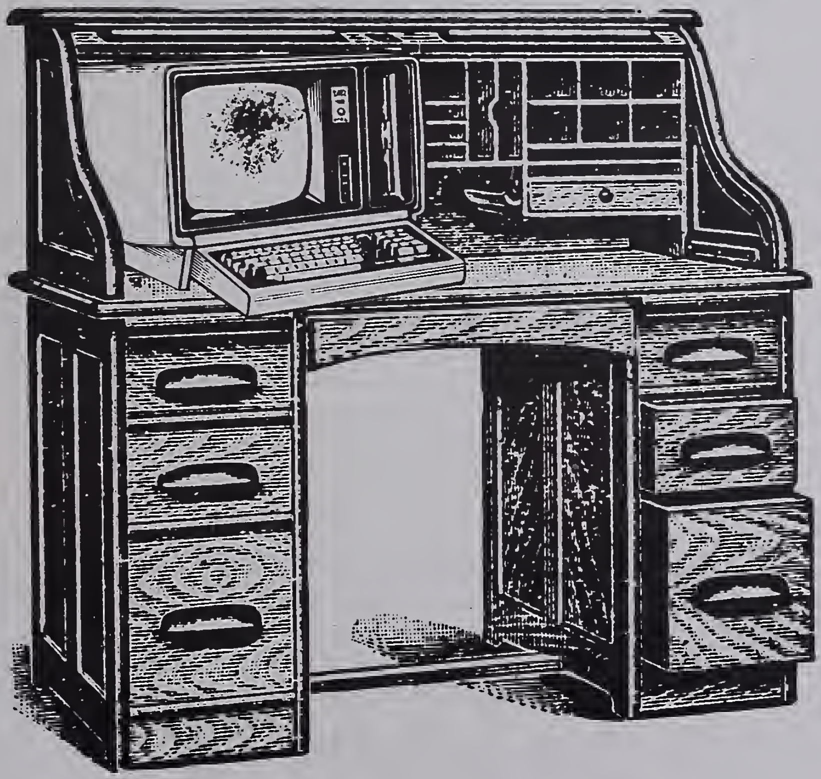

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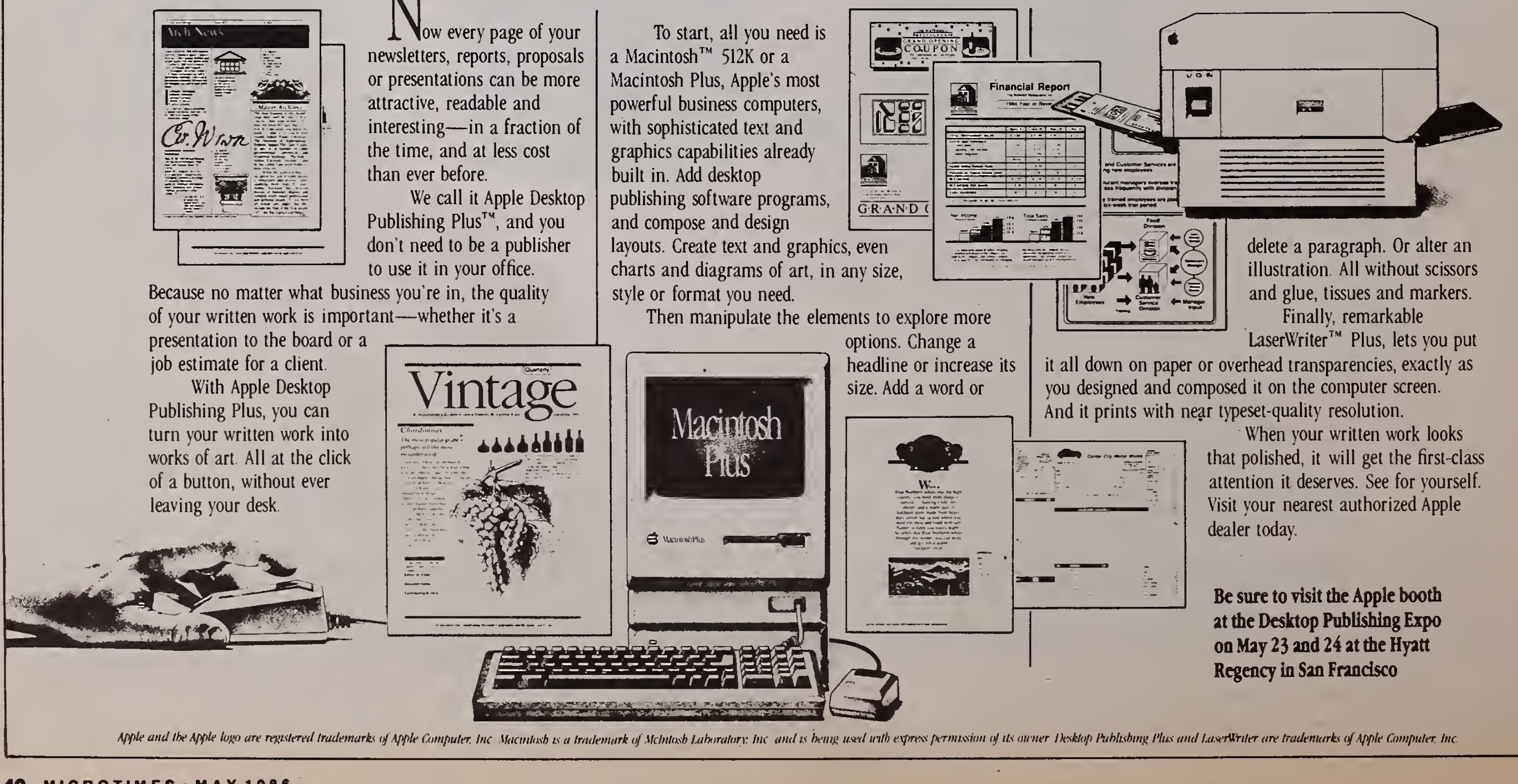

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then edited, re-written and proofed. The completed text is then turned over to a production manager who assigns the copy to typesetting professionals, either in-house or under contract to the publication through a production company. Once typeset, the copy is returned to the editorial department for final proofing. Errors are caught and corrected articles re-typeset.

The copy is then "dummied," (laid out on boards) to see exactly how the material matches the issue "layout" that was constructed for this particular volume several days earlier after article word count and advertising space had been compiled. Such tedious work requires that text be "cut and pasted" to varying positions on the boards to ensure a perfect page fit of not only the articles, but accompanying artwork and advertising.

Once the boards have been approved, the whole package is sent to the printer, who might be just around the corner or thousands of miles away. The printer produces "blue lines," pre-production copies of the magazine that are sent to the editorial department for another proofing. Errors in layout, advertising mis-matches, or typos caught at this stage are fairly hard to correct, as time is of the essence. The printer is not only managing your publication, but perhaps several others as well. Time slots for each publication dictate that the printer move ahead on your magazine with great alacrity. The expense involved to correct minor publication inconsistencies at this stage of the magazine's production is rarely worth the effort. So, the print run ensues, with the thousands of hard copy issues then shipped to your distributor for shipment around the world.

As you can readily see, this process involves months of work for a single issue. This is one reason why magazines are rarely as timely as newspapers. The trade-off is that a magazine normally attempts to be graphically pleasing as well as generally informative, whereas a newspaper demands exacting information and timeliness as its priority over and above graphic design. The costs for a publisher are staggering in either case, not only in the amount of cash needed for the actual production of the magazine, but in the salaries of a large number of expertly trained employees and contract personnel to manage and produce the periodical.

The second environment, as a natural progression toward total desktop publishing, is the incorporation of a new element into the traditional publishing cycle. One of our past functions was to produce a marketing newsletter for a software distributor, from its writing and design to its final production. The newsletter was initially formulated in the more traditional method, with copy being written using a word processor and dumped to a printer as hard copy. This copy was then red lined for errors and re-edited with the word processor. As several photographs were also needed, this required contracting with an outside photographer to handle such assignments. The final material was then taken out of house to a middle man, who had the copy typeset and dummied, the photos cropped and positioned, and the boards returned to us for approval. Then it was off to the printers, and then we received the standard blue lines for proofing. The newsletter was printed on a 70 pound glossy stock, selected for its half tone and color reproduction capability.

Enter the Macintosh and the new desktop publishing software programs. Through our use of the latter, newsletter production time was reduced by over seventy-five percent. One entire issue could be prepared and laid out in less than a day once the articles were written. In-house material could be written directly into the layout, with the onscreen display truly reflecting the newsletter's contents, page by page, column by column. Articles from freelance authors, news releases and new product announcements from vendors could all be mailed directly to us as ASCII text files on disk (or via modem) and be immediately uploaded into the onscreen layout. Editing was accomplished within the layout, so there were no surprises when we later dumped the newsletter to our printer to check for final article placements, typos, and design. The software program of our choice also allowed us to magnify the material by as much as 200% for definition of borders, text and graphics placements.

As we had other primary duties, our salary expenses for the time involved on each issue was cut dramatically, and we found more constructive time available for us to spend on our primary work, which included two online "electronic" computer magazines. Although the cost of producing the newsletter still exceeded $10,000 per month, as our final copy was then typeset and printed in the usual manner. one important cycle within the process had been made enormously more efficient. The editorial time commitment had been dramatically reduced and the work load eased, thanks to the desktop program environments running on the Macintosh.

The final phase is a total implementation of desktop publishing and requires the entrance of one more player, the LaserWriter printer. With a simple interface to the Macintosh, the two external elements (typesetting and printing) are brought in-house. Remember the $10,000 originally required for the 6-page, 2-color newsletter? Such expenditures are now but a passing memory.

We then produced a newsletter that consisted of

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*Requires graphics capability, not available in the CP/M.

Printers supported on the IBM PC version:
Blue Chip; Citizen MSP-10, and MSP-20; C.Itoh Prowriter 8510, and Prowriter Jr.; Data Products SPG 8010-2, 8012, 8021, 8022, 8051, 8052, 8071 and 8072; EPSON FX, JX, LX, RX, LQ-1500, and MX with Graftrax; HP Think Jet; IBM Color Dot Matrix, Compact Thermal, Graphics Printer and ProPrinter; IDS Prism; Mannesmann Tally MT 85 and 86; NEC P2/P3 Pinwriter, 8023A and 8027; MPI Sprinter; Okidata 82A/83A with Okigraph 1, 84 (Step II), 92, 93, 182, 183, 192, 193, and Okimate 10 and 20; Panasonic KX-P 1090, 1091, 1092, and EP-1505; Star Gemini 10 and 15; Tandy CGP 220, DMP 105, 130, 200, 400 420, 430, 500, 2100, 2100P and 2200; TI 855; Toshiba 1340, 1350, 1351 and P351; Smith Corona D300.

Printers supported on the Apple version:
Apple Imagewriter and Scribe; C Itoh Prowriter 8510; EPSON FX-80/100, RX-80/100, and MX-80 with Graftrax; Okidata 92 and 93; Star Gemini 10 and 15.

Printers supported on the Commodore version:
C.Itoh Prowriter 8510 and Prowriter Jr.; Commodore VIC-1525 and MPS-801; EPSON FX, RX, and MX with Graftrax; Okidata 92, 93, 192, and Okimate 10; Star Gemini 10 and 15.

Printers supported on the Atari version:
C.Itoh Prowriter 8510; EPSON FX, RX, LQ-1500, and MX with Graftrax; IBM Graphics Printer; Okidata 82A/83A with Okigraph 1, 84 (Step II), 92 and 93; Star Gemini 10 and 15; Toshiba 1340, 1350, 1351, and P351.

Printers supported on the CP/M version:
C.Itoh Prowriter 8510 and Prowriter Jr.; EPSON FX, RX, LQ-1500, and MX with Graftrax; IBM Graphics Printer; Okidata 82/83A with Okigraph 1, 92 and 93; Star Gemini 10 and 15. Tandy DMP 105, 130, 430, 2100, 2100P, and 2200; Toshiba 1340, 1350, 1351, and P351.

• Most of the above graphics from PrintMaster and Art Gallery I.

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Comparison Chart

Programs / Features	PrintMaster (All versions)	The Print Shop Apple Commodore	The Print Shop IBM
Mixing fonts on one page	✓	NO	NO
Upper and lower case	✓	NO	✓
Preview of Design layout (Not on CP/M)	✓	NO	✓
Calendar	✓	NO	NO
Hercules card (IBM only)	✓	NO	✓

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PrintMaster · IBM PC, PCjr and compatibles	$59.95	____
PrintMaster · Apple II+, IIe and IIc	$39.95	____
PrintMaster · Commodore 64 and 128	$34.95	____
PrintMaster · Atari 520ST	$39.95	____
PrintMaster · CP/M	$49.95	____
Art Gallery I · IBM PC, PCjr and compatibles	$39.95	____
Art Gallery I · Apple II+, IIe and IIc	$39.95	____
Art Gallery I · Commodore 64 and 128	$24.95	____
Art Gallery I · Atari 520ST	$29.95	____
Art Gallery I · CP/M	$39.95	____

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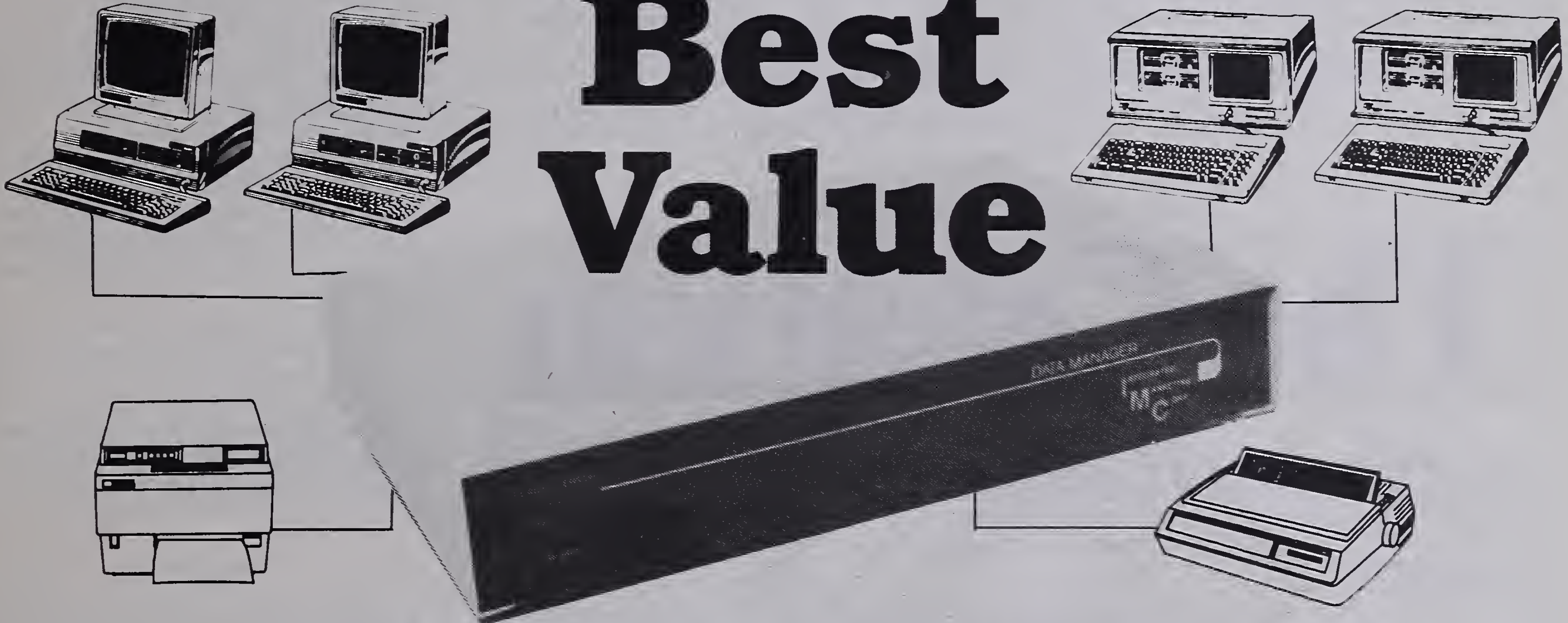

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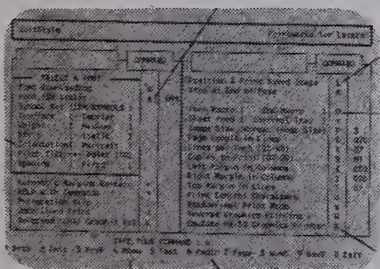

Printworks is a memory resident printer utility that provides printer control via a pop up menu selection screen when the Shift-Print Screen keys are pressed. Fonts, Type, Style, Size, Weight, Margins, Page Size, Lines Per Inch, Multiple Copies, Sideways Printing and more can be easily selected. Printworks is fully compatible and can emulate graphics and text on the Epson MX-80 Printer.

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THE INTERFACE SPECIALISTS

black-and-white and gray shades, eight double-sided pages in length, which was mailed to 2,000 controlled circulation readers, all for less than $5000! And that price included the taking of our camera-ready, LaserWriter dumped newsletter to a local, speedy print shop for duplication on 20 pound stock and collation. We then simply folded the newsletter in thirds, attached our subscriber mailing labels, affixed postage, and popped the finished product into the mail. In less than four working days, we had out-produced, in a more cost-effective manner, all of our previous publication attempts.

Uh-oh, we can hear you saying, what about equipment cost? The LaserWriter retails for $4,999. Other than the depreciation allowable on such equipment, let's not forget that with *one issue* your normal production savings could well equal *more* than what the printer cost you or your company. And there are other routes you can take, should printer ownership not be one of your most immediate priorities. Many companies have sprung up that rent a Macintosh and LaserWriter by the hour. This pricing usually ranges from $6 to $12 per hour (some charge extra for training you to use the equipment), with users required to purchase their own LaserWriter toner cartridge, which runs $99.95. Consider, however, that the cartridge is supposed to be good for around 3,000 copies, and the expense is more than justified. With more graphic-intensive newsletters, the number of copies per cartridge significantly decreases. We found our cartridge normally lasted for about 1,200 to 1,300 good, solid copies.

Desktop Publishing Software Resources

There is not yet a flood of desktop publishing products. However, if recent releases are any indication, this estimated $4 billion-per-year market is attracting a great deal of vendor attention. Those who feel that the Macintosh is the *only* system capable of supporting desktop publishing are in for a surprise. The market for other systems to engage in this truly personal activity is strengthening each week.

Desktop publishing programs, working in tandem with computer operating systems, provide a cost-effective, easy, and impressive tool for any personal publishing, be it a newsletter, a Take One brochure, or a corporate memorandum. By definition, a desktop publishing program must be able to manipulate graphics and text and allow for output to a printer (dot matrix and/or laser). The program might also allow for the inclusion of typesetting code for direct input into a typesetting machine.

The following programs, at one time, would have been called "vertical in application." But this once vertical market is becoming quite horizontal in application! This doesn't mean that next year you'll see a laser printer and a desktop publishing system on every desk, but perhaps by the following year...

Macintosh

PageMaker. Aldus Corporation, 616 1st Avenue, Suite 400, Seattle, WA 98104, (206) 467-8165.

MacPublisher II. Boston Software Publishers, Inc., 1260 Boylston Street, Boston, MA 02215, (617) 267-4747.

ReadySetGo. Manhattan Graphics, 163 Varick Street, New York, NY 10013, (212) 989-6442.

IBM Micros and Compatibles

MicroTeX. Addison-Wesley Publishing Co., Reading, MA 01867, (617) 944-3700.

Color Publisher. Arktronics, Ann Arbor, MI.

DeskSet. G.O. Graphics Inc., 18 Ray Avenue, Burlington, MA 01803, (617) 229-8900.

scLASERplus. Graham Software Corp., 212 King Street West, Toronto, Ontario, CANADA M5H 1K5, (416) 591-9131.

Byso Print. Levien Instrument Company, P.O. Box 31, Sitlington Hill, McDowell, VA 24458.

PCTEX. Personal TEX, Inc., 20 Sunnyside, Suite H, Mill Valley, CA 94941, (415) 388-8853.

ScenicWriter. ScenicSoft, Inc., 12314 Scenic Drive, Edmonds, WA 98020, (206) 742-6677.

Ventura Publisher. Ventura Software, Inc., 675 Jarvis Drive, Suite C, Morgan Hill, CA, 95037, (408) 779-5000.

Printrix. Data Transforms Inc., 616 Washington St., Denver, CO 80203, (303) 832-1501.

Other Systems

The Newsroom. Springboard Software, Inc., 7808 Creekridge Circle, Minneapolis, MN 55435, (612) 944-3915 (Apple II series, Commodore, IBM micros).

The Creation

PageMaker™, the remarkable page layout program, gives you the tools to create high-quality business communications such as newsletters, catalog sheets and price lists in your own office.

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For example, a 16-page newsletter that takes 26 hours and costs $960 using traditional methods can be produced with PageMaker in just 8 hours for only $170.

PageMaker lets you quickly and efficiently integrate text and graphics onto a page which is displayed on the computer screen where you can also see how graphics, type styles, fonts and sizes will look when printed. When layout is completed, the document is ready for reproduction.

You don't have to be a graphic designer or computer expert to work with PageMaker.

The program makes it simple by following standard publishing procedures, eliminating repeated proofreading and incorporating a built-in text editor.

For more information on PageMaker—the most versatile desktop publishing system in all creation—contact your authorized Apple® dealer or Aldus Corporation.

PageMaker

Aldus Corporation
411 First Avenue South #200
Seattle, WA 98104
(206) 622-5500

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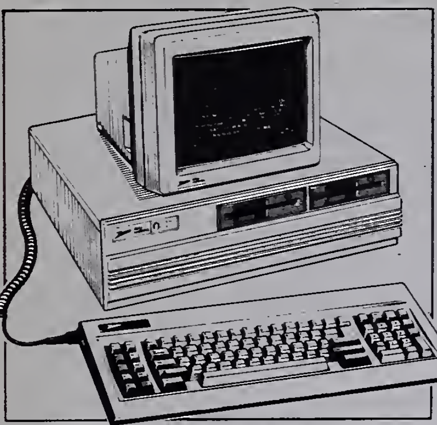

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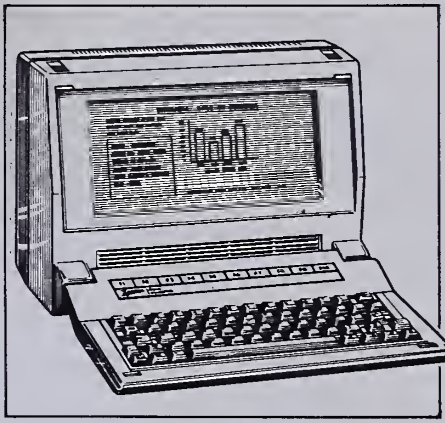

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COMPUTOWN

Fifteen thousand copies of the newsletter were then mailed to a controlled circulation audience by a professional mailing service. The costs for the six-page, two-color newsletter ran over $11,000 per month, not including our salaries. This newsletter required three weeks to prepare, from original layout through proofing of the blues.

O.K., but you also require graphics for your newsletter. So be it. There are a number of graphic digitizers on the market today whose end-product can be easily included and manipulated within the desktop publishing program in much the same manner as text is manipulated. We operate two such digitizers, depending upon the subject matter. For three-dimensional objects, we use MacVision from Koala Technologies. You will need a portable video camera, which we have taken into the field to photograph buildings or other structures when such images are needed. The VCR tape captures the image seen by the camera, and we then select the best frame from the tape for inclusion in the newsletter. The image is saved as a *MacPaint* file, enhanced if necessary, and then uploaded into the desktop publishing program for placement.

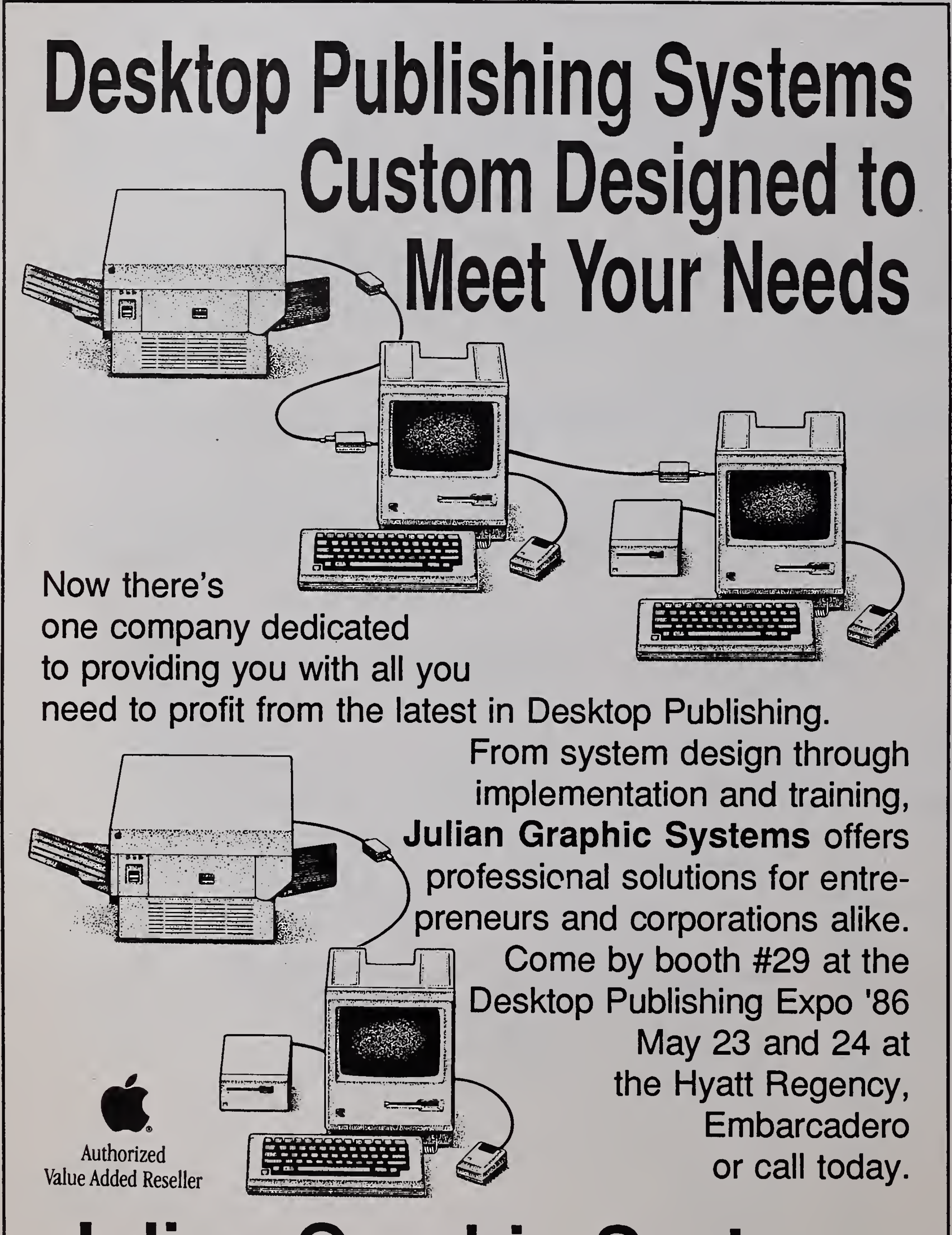
Our second tool, used to digitize flat images such as photographs and drawings, is the newly upgraded Thunderscan digitizer from Thunderware, Inc. With gray scaling and a gray map that can be adjusted to suit your specific needs, the quality of digitized image is superb. All these images can be saved to disk as *MacPaint* or Thunderscan files and can be edited as any *MacPaint* graphic. We have also found that images created with *MacPaint, MacDraw* and *MacDraft* can be just as effective as the digitized photograph, as they present far more black-and-white-intensive images, thereby reproducing on the LaserWriter with additional clarity and impact. Such creations also allow for far more design flexibility and can better address the specific artistic needs of a particular article.

Our typical newsletter consists of a three-column format, with enough white space dedicated to margins at the top, bottom, left and right. We feel that strong guidelines need be positioned between the columns to negate the wandering-eye condition some readers feel when reading columnar text. To break up the monotony of three columns on each page, two pages are dedicated as two column presentations (one column being two columns in width). Desktop publishing programs allow exacting placement of column guides due to built-in and visible rulers for such activity. With the Mac, we can screen our text, giving it a background shade to heighten its visibility. We can center, left or right justify text within columns, employ several fonts and font sizes within an article to enhance the textual presentation or to add emphasis to specific words, and use mini *MacPaint*-like tools to bring boxes, ovals and other shapes into graphic play in the design. The program allows us to print out a thumbnail sketch of the issue, allowing us to make certain pages precise and orderly when back-to-back. Ad or classified placements are also easy to bring into account by noting accompanying articles to make certain there is no conflict with the paid space. Graphics can be moved at will, with text allowed to flow *around* the graphic placement. Each text entry can be manipulated just as though it were in a word processor, to include hyphenation.

We have used our desktop publishing programs and the LaserWriter to enhance all manner of materials, from a real estate listing sheet to sales brochures. Users find themselves becoming far more creative. Differing production elements and brave designs are introduced into in-house publications, as once-outlandish ideas and thoughts become viable, not restrained by the norms established by the publishing community. After all, you no longer have to listen to "them." You no longer have to hear "we're late in production," or "the press broke down," "you can't *do* that," or suffer delays because of union paid holidays. Any errors, any letdowns, any mistakes, they're your responsibility when you run the publishing show. Likewise the compliments!!

We see desktop publishing as more than just one method of addressing information. This is a truly creative process that can amplify previously hidden talents. No longer is professional publishing the bailiwick of the privileged few. The church newsletter, local shopping center brochures, Boy Scout rummage sale announcements, lost dog notices, school journalism classes, end-user documentation, book covers, company reports—anything that requires written communication can benefit from the Macintosh, LaserWriter and desktop publishing software combinations available today.

Now there's the new LaserWriter Plus with twenty or more fonts, a new *PageMaker* from Aldus that incorporates the tabloid paper size (11 - 14 inches) and increased graphic output, and the new Macintosh Plus that operates faster than the 512K machine. Granted, desktop publishing is not the end-all for all publication needs. However, with the trend toward more sophisticated peripherals, software and their accompanying use of the Mac interface, this revolution is swiftly becoming an industry standard. The power of publishing is, today, quite a personal matter. ☐



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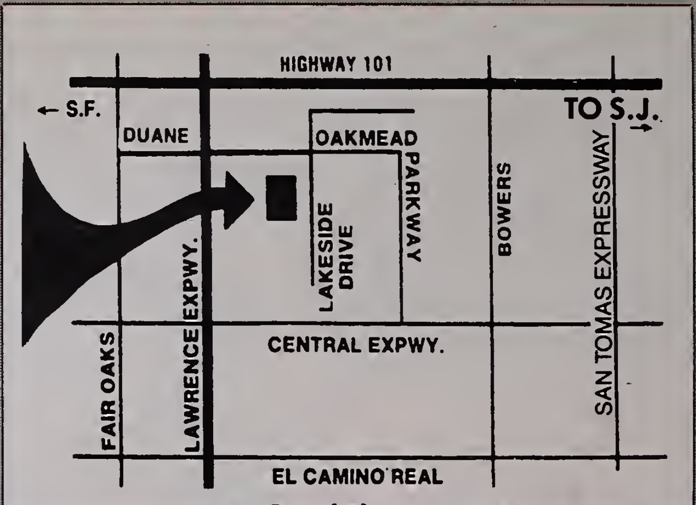

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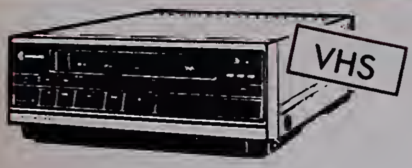

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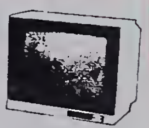

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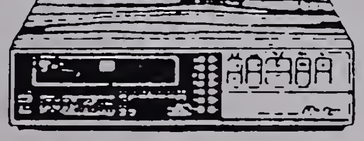

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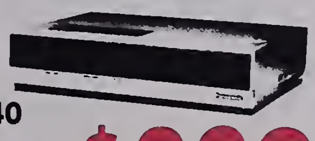

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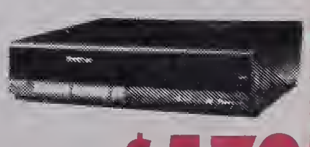

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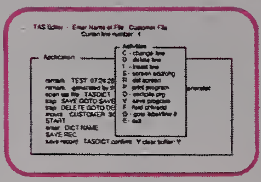

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One Man's Story:

Should You Learn To Program? Well, Maybe...

TRI-ZYME
COMPUTER PROGRAMS FOR
Amway
DISTRIBUTORS

By Fred Blechman © 1986

Because of my eight-year love affair with microcomputers, including writing five books and over 150 magazine articles about them, some people frequently ask me, "Should I learn to program?" These days I usually reply, "Probably not."

It was not always that way. I'll try to explain the way it was, the way it is now — and the potential jeopardy, financial and otherwise, in which you put yourself by learning to program.

In the old days, if you wanted your computer to do anything, you *had* to program it yourself. In the late '70s, after years as an electronics enthusiast, I bought a TRS-80 Model I, 4K with the Level I BASIC language built-in.

I had a large, successful Amway business with several hundred distributors, and the paperwork had become a burden. I knew a microcomputer could help, if I could find or write my own programs. Since I had never had any exposure to programming, though, writing my own programs would be a last resort.

I quickly learned that the computer was useless without programs, and that the few programs that were available would not do what I wanted. I inquired around TRS-80 User Groups, trying to find someone who would write the programs I needed, and found that custom programming was prohibitively expensive. Also, my computer lacked sufficient power to do anything significant.

Believing the computer "hype" that anyone could learn to program in just a few hours, I decided to give it a try. The TRS-80 came with an excellent manual on Model I Level I BASIC. In a few hours I found myself writing some trivial programs — and being lured by the challenge to improve. I found newsletters and magazines with BASIC programs and learned by running and modifying them. I found myself absorbing new concepts like a sponge, and creating my own brainchildren.

It's hard to express the jubilation you feel when you create a program that runs properly — or the frustration when it doesn't! I found myself staying up late at night and getting up early in the morning to program. When I wasn't programming I was thinking about programming.

Unfortunately, I learned that it takes most people (except 12-year olds!) a couple hundred hours of programming experience before they can do anything really significant, even with the relatively simple BASIC language.

Needless to say, my enormous involvement in programming proved to be a great diversion from my Amway business activities. Instead of my creative efforts being directed toward the management and training of my distributor organization, I found myself obsessed with the challenge of programming. Both time and energy were being channeled into programming instead of business growth. Furthermore, my wife, tolerant as she is, began to resent the intrusion of the TRS-80 into our lifestyle.

The obsession grew. I upgraded my TRS-80 to the much more powerful Level II BASIC and 16K of memory, which allowed me to finally write some significant programs for my Amway business. One thing leads to another, and my entrepreneurial orientation led to my branching into three sideline businesses that involved programming — computer magazine articles, computer books, and a software package.

I wrote a blizzard of articles for various computer magazines, which were themselves evolving from newsletters or spinning-off from other magazines, and were hungry for introductory material. I kept uncovering simple programming techniques, and found that because I had not been trained as a programmer I could still communicate with beginners.

The articles finally led to my first book, *Programs For Beginners On The TRS-80*, which covered Model I and Model III Level I and Level II BASIC. It had 21 original programs with extensive line-by-line explanations.

By this time I had written enough programs for my Amway business that I realized I could put them into a package and offer them to other distributors. I have sold over 1000 of these packages, and the latest version, the "AMBIZ-PAK '86™" of ten programs sells for only $100.

As time moved on, I wrote four more microcomputer books, primarily aimed at teaching BASIC programming for the Timex Sinclair 2068 Personal Color Computer, Coleco ADAM, Sanyo MBC 550/555, and the Apple IIc. Article payments, book royalties, AMBIZ-PAK sales — and, off to the side, there was my Amway business faithfully still bringing in the bucks, despite my lack of attention.

I haven't added it up, but I know that programming, even though just limited to BASIC, has brought me an income well in excess of $100,000 over the last five years. But how about the cost? Not only did I find myself with Excedrin headaches almost every day, but I looked at my peers in the Amway business who did not buy any computers, but put their energy and creativity into building their existing Amway businesses. Based on the experience of other distributors, I calculate that I have *lost* over a half-million dollars that I would have earned in my Amway business if I had *not* gotten involved with programming!

There was one time, however, that being able to program in BASIC was a distinct advantage. I was audited by the IRS a few years ago, and they claimed I had $45,000 of unreported income. They had simply added all my various bank deposits and compared that with the income shown on my 1040 return. I explained that, for cash-flow purposes, I transferred money between my various business and personal accounts. I was told that if I could document those transfers, they would not be considered income.

I found a BASIC program called *The Home Accountant* for my TRS-80, but it wouldn't do just what I wanted. However, I had learned enough about programming to make some modifications. Using the program I was able to document the flow of $43,000 of the "unreported income" through 18 transfer paths between accounts. (The other $2000 was income from various "garage sales" that year, which had been duly noted in my deposit records.)

Today, as a result of the increased popularity — and ease of use — of microcomputers, things have changed drastically. Today you can buy sophisticated programs for just about any conceivable need. You don't have to be a programmer — you can be strictly a "user," since most of the microcomputers now sold don't require any knowledge of programming. If you do have special needs, there are many people around who customize powerful existing programs for a reasonable fee.

Newer computers, like the Apple IIc, Macintosh, Atari ST, and Amiga, in fact, are so aimed at "users" rather than "programmers" that it is difficult for a novice to program them, yet easy for a user to operate them. BASIC languages have become so sophisticated that they are no longer easy to learn. SUPERBASIC, used on the Sinclair QL, for example, is more sophisticated than some mainframe computer BASICs of recent years.

These days the decision of whether to learn programming can be based on desire rather than necessity. If you intend to become a professional programmer, or you wish to make it a hobby, by all means learn to program. But constantly be aware that the hobby can become an obsession, with potentially serious financial and social consequences. ☐

Questions or comments? Fred Blechman may be contacted by phone from 9AM – 5PM, Monday – Saturday Pacific Time, at (818) 346-7024.

MacCharlie

The Best Of Both Worlds For Business

By Barbara Leone

Anyone who has ever worked on a Macintosh is aware of just how easy to use and powerful it is.

Enhancing productivity ought to be the reason for choosing a personal computer. Ideally, business software and hardware should work together in a manner that combines power, ease of use, and ease of learning. The Macintosh has finally come of age in this sense.

However, there are still other problems to deal with—company politics, for instance, or the logistics of making a Macintosh fit into the workplace where IBMs abound. For example, *Lotus 1-2-3* users have been unable to share files with Macintosh users. Dayna's MacCharlie provides a novel solution to this problem, allowing IBM programs to run on a Mac.

MacCharlie looks like a 5¼" disk drive unit; it attaches to the side of the Macintosh and includes a keyboard attachment that goes around the outside of the Macintosh keyboard. This device adds the IBM keyboard function keys and the numeric keypad.

This ingenious little device gives you the best of both worlds! With MacCharlie, moving a file from a Macintosh spreadsheet such as *Excel* to *1-2-3* and back again, for example, is astonishingly easy. Just select a few menu commands and voila!—the data appear in the next program and you're ready to go.

What I found so great about all of this was that with MacCharlie you still have typical Macintosh editing capabilities. The IBM environment resides in a Macintosh window. Across the top of the windows are the Macintosh menus for editing, such as cut, copy and paste.

The MacCharlie has its own separate processor and RAM. The MacCharlie input devices are made up of a keyboard extension, communications port, and bus extension connector. Its output devices can be connected to printer and communications ports or through the bus extension. In this way the MacCharlie really serves as a standalone microcomputer—with certain limitations. For example, the keyboard extension does not make up a complete keyboard, it does not come with a monitor, and there is no way to tell operators whether they're getting accurate information or doing what is asked.

I can see the MacCharlie being useful in a variety of office environments. For instance, I recently had a client whose secretary was very disturbed about the number of Macintoshes that were being bought for use in her office. She was very good at using *WordStar*, and she found that using the Macintosh for "industrial strength" wordprocessing was very tedious. The mouse got in the way of her typing speed. However, the company she worked for was committed to Macs—they created a lot of training materials, and liked the Macintosh/LaserWriter combination for desktop publishing of these materials.

The MacCharlie would have been a great solution to this problem, retaining the secretary's productivity while integrating her work more effectively into the company's operations as a whole.

There's more to MacCharlie than file transfers, however. With MacCharlie the actual programs, such as *Lotus 1-2-3* and *WordStar*, can be operated just as they would be on an IBM.

If you can't find MacCharlie at your local dealer, call Dayna directly at (801) 531-0600. Or write: Dayna Communications, Inc., 50 South Main St. 5th Floor, Salt Lake City, Utah 84114. ☐

Barbara Leone owns and operates Microsource Consulting Services in Orinda, California. She works with all sizes of businesses, training and consulting on the Macintosh and IBM personal computers. For more information call: (415) 254-4999.

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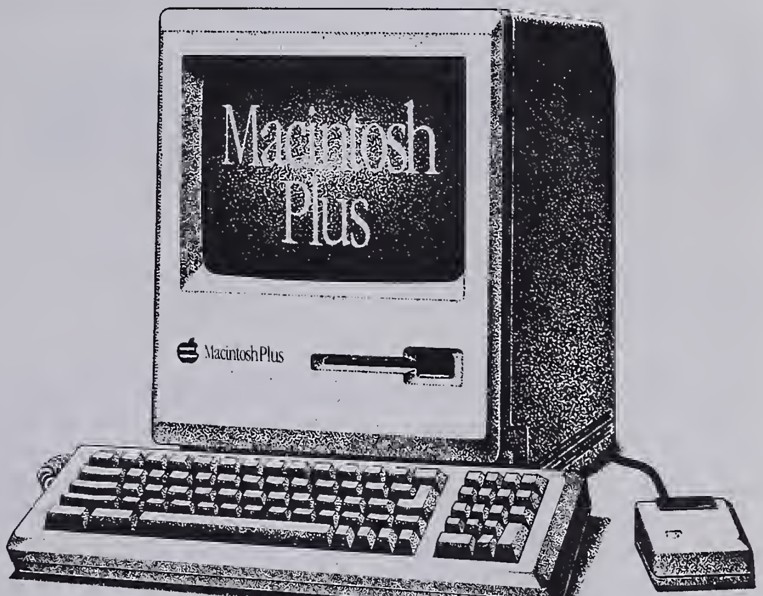

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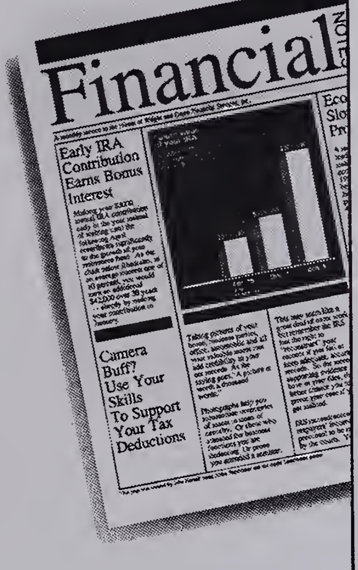

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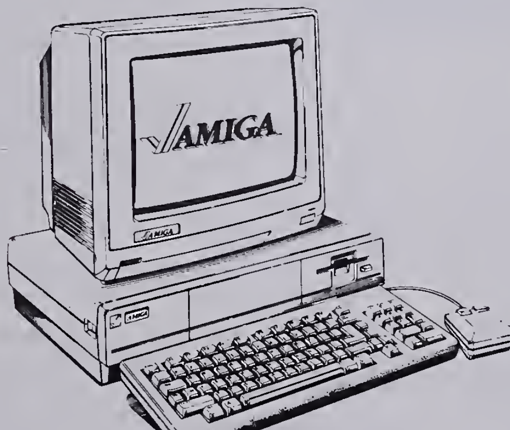

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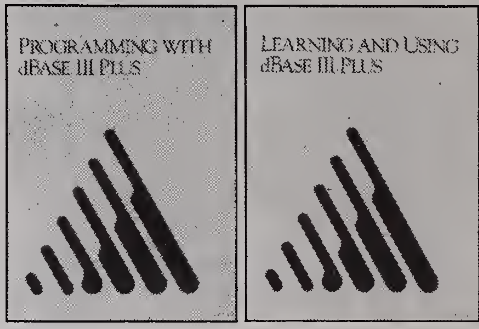
dBASE III Plus: What's New?


PROGRAMMING WITH dBASE III PLUS
LEARNING AND USING dBASE III PLUS

By Warren Sirota

The Story Up To Now

In the beginning, when CP/M was in flower, there was *dBASE II*. And when the IBM PC was unleashed upon the clamorous hordes, there too was *dBASE II*. And the public saw that it was good, or at least better than anything else that was available, and lo! they purchased copies as though the apocalypse was nigh. And the lords Ashton and Tate and their royal magician Ratcliff did reign supreme from the castle in Tinseltown.

Alas, changes were afoot in the land. First came the invasion of the Lotus-eaters, having picnics and spreading their sheets over the hills of Dataland, and leaving audit trails all over the meadow. Then came the pretenders from the northern Rim, setting up alphabetically-labelled guerilla bases (the most famous of these being *R:BASE*). Add to this border skirmishes with dozens of other contenders and the pains of growing from a little fief to a kingdom, and *dBASE* was sore beleaguered.

In short, Ashton-Tate has had to work hard to maintain its territory, and *dBASE III Plus* is the impressive fruit of that labor.

dBASE II was, for a while, the only database system for PCs that could handle anything but the simplest type of information, and also was the only one that was programmable. It got a reputation for being hard to learn, but powerful and adaptable to many different types of jobs. It was also fairly inefficient, because it had been designed for 8-bit, 64K CP/M machines, not 16-bit IBM PCs.

dBASE III was a major rewrite of *dBASE II*, and was released only for 16-bit machines. It was a solid product and a significant improvement over *dBASE II*. There were many improvements, mainly in the areas of handling multiple data files. Whereas *dBASE II* could handle only two files at once (and the relationship between them), *dBASE III* could handle ten. There was a host of other improvements (and, alas, a couple of nice *dBASE II* features which were actually dropped from *dBASE III*). Although it is easy enough to find weaknesses in the overall design of *dBASE III*, thousands of customers have been able to create useful business systems with it. Some of the competing database managers are good, but none of these is clearly the best.

dBASE III Plus is a substantial revision and improvement over *dBASE III*, and replaces the earlier program in the product lineup. In most ways, the improvements are incremental. Changes have been made in three areas. First, numerous user comments and complaints have been addressed with this product. Second, Ashton-Tate has made an effort to improve the Assistant, a menu-driven interface which aims to help relatively untrained users harness more of the power of the database manger. Third, they've added multi-user capabilities to the product, provided that you have one of the local-area networks that A-T supports (Novell, or either of the IBM LANs).

What's New?

New Documentation: The first and most obvious change from *dBASE III* is that Ashton-Tate has added about six pounds to the documentation. It now comes in two thick volumes, *Learning And Using* dBASE III Plus and *Programming With* dBASE III. By and large, the documentation seems good. Ashton-Tate has made a serious effort to teach the beginner how to use the program effectively with an extensive printed tutorial (with sample programs on disk) and an on-line tutorial which explains the basic features of database programs. I liked the documentation for *dBASE III*, and I like this documentation. The only problem I had with it was the fact that it includes two sets of update pages which must be inserted into various places in the manual, and the two sets are not dated, so that it is impossible to tell which supersedes which.

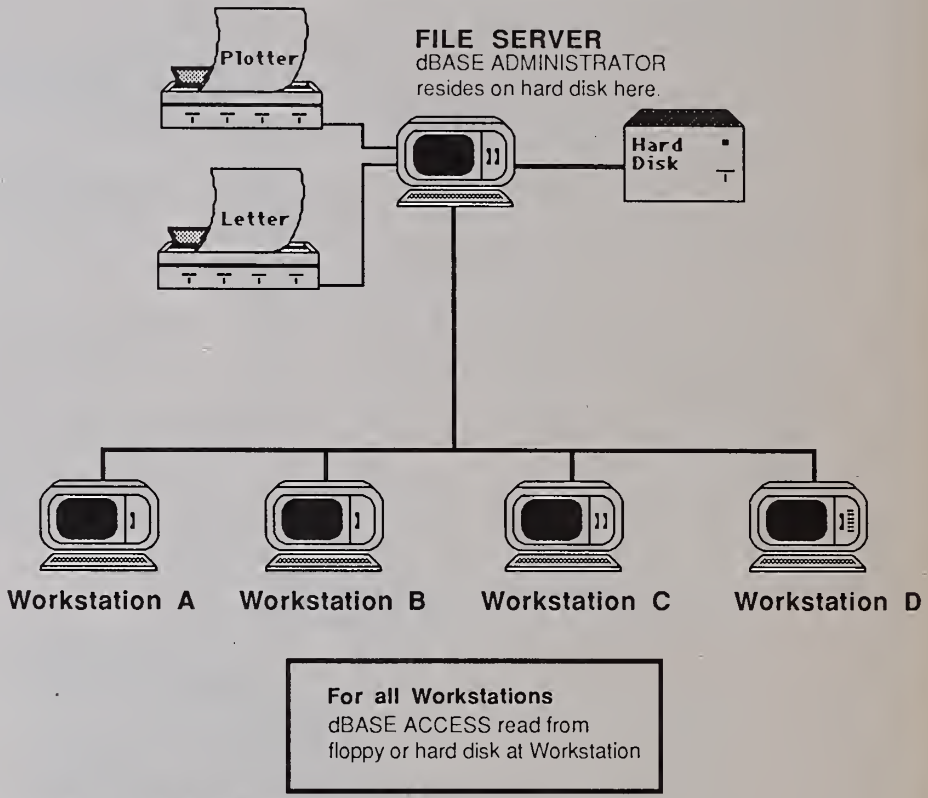


Figure 1: A typical network configuration using dBASE III Plus.

The Assistant: In a continuing effort to make *dBASE* easier to use, A-T has improved the Assistant, a system of pull-down menus which, ideally, would give non-programmers easy access to most or all of *dBASE*'s power. While the goals are noble, the results fall somewhat short of the mark. The complete operations of *dBASE III* are not obvious from the Assistant menus, and some of the menus are confusing in themselves. Pull-down menus are nice, but the one-line descriptions of what the menu choices are supposed to do appear down at the bottom of the screen, about as far away from the menu as they could possibly be. A little more attention to ergonomics would be appreciated here.

The Assistant could be better organized, but even in its less-than-perfect state, it can relieve the new user of the burden of learning the syntax of many commonly-used commands. In addition, the Assistant makes it very easy to locate records in a database and to produce reports based upon a set of search criteria. I still wouldn't unleash the product on a clerical employee and expect him or her to become a database whiz overnight, however.

Network Support: A-T has added networking facilites to *dBASE III*. In particular, if you are running the Novell or one of the IBM networks, you can set up centralized databases for simultaneous access by multiple users. This facility will only be useful to a limited number of users currently, but it does indicate A-T's commitment to network support and imply that other networks will be supported if they become popular enough.

Network support is an important factor in the push for the all-important corporate market, because major upheavals are in the works everywhere as data processing departments struggle to find ways of making the valuable information which resides on PCs more widely available.

When used in network mode, the main version of *dBASE III Plus* resides on a combination of PC (or XT, or AT) and hard disk known as a "file server." The file server has a network control card plugged into one of the slots, and cables connect this card

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with cards plugged into other PCs on the network, which are known in this context as "workstations." (This is all network terminology, not *dBASE* terminology).

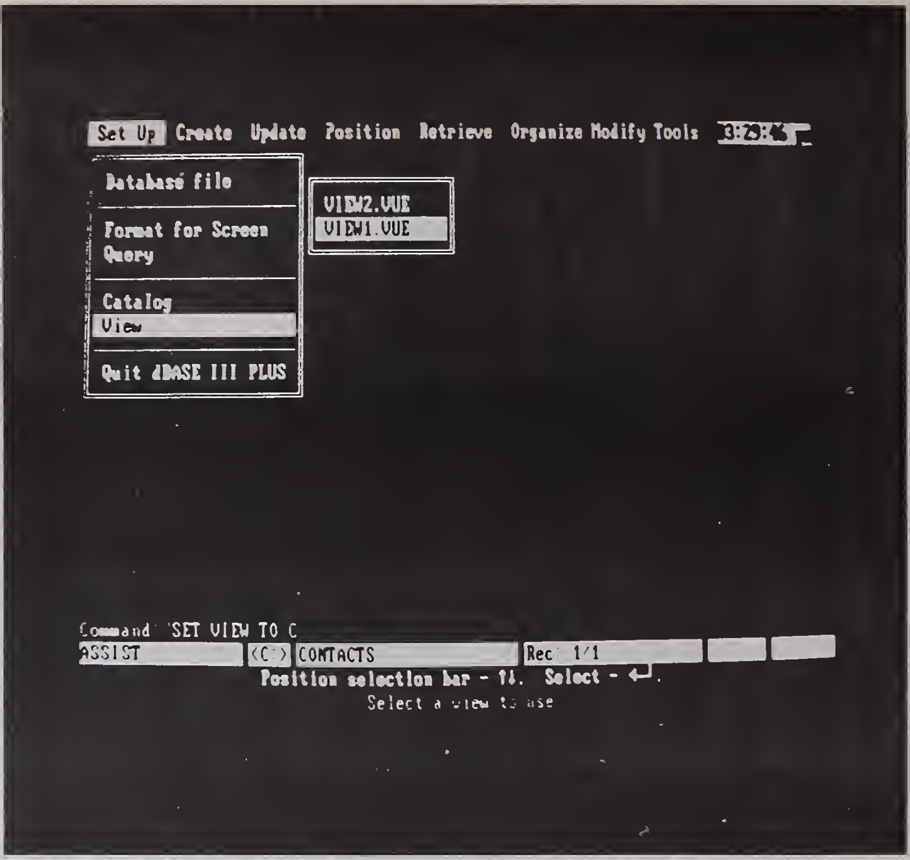
Figure 1 shows a typical computer network. Each of the workstations must have its own copy of a program called *dBASE Access* in order to access the file server's *dBASE* system. If the workstation has *dBASE III Plus* installed on its own hard disk, or has the *dBASE III Plus* key disk in the A: drive, then the Access program is transparent. In this case, the network users can benefit from shared data, but they are not saving money on the cost of *dBASE* systems, because each workstation has purchased its own.

In order to save money on workstation software costs, network users can purchase the *dBASE III Plus LAN Pack*, which basically consists of three key disks that allow users to log in to the file server *dBASE III Plus* and use the program's facilities as well as its data. The disadvantage of this is that, if the network has a problem, these workstations will not be able to do *dBASE* work in a stand-alone mode.

The main issue in setting up a multi-user database system is to avoid having more than one person trying to change the same piece of data at once. *dBASE III Plus* has two methods of accomplishing this. The first one, called file locking, is the default, and is automatically invoked unless shut off explicitly. With file locking, if an individual at Workstation 1 is changing data in a database, then no one else is allowed to have change access to that database until the first worker is finished. Record locking, which allows more than one workstation to change records in the database, so long as they're different records, must be set up explicitly by a programmer or network administrator.

David Jenkins, president of Midway Software (a Berkeley consulting company) has tested the network implementation. He reports that effective use of the network facilities requires considerable expertise. He also makes the point that the copy-protection scheme requires the network administrator to entrust a $300 key disk to each workstation user.

The network portion of *dBASE III Plus* is in its first generation now, and changes are to be expected. There are still relatively few sites with LANs installed, and even fewer with the particular LANs that Ashton-Tate currently supports. Nonetheless, this portion of the product can be useful for companies which are considering LANS and which need to gain experience with multi-user databases.



```
Command 'SET VIEW TO C
ASSIST          <C:> CONTACTS          Rec 1/1
          Position selection bar - ↑↓.  Select - ↵.
                    Select a view to use
```

The dBASE Assistant makes it easier for the fledgling programmer to generate applications.

The Application Generator: An application generator is a program which can be used to build other programs. A really spiffy, state-of-the-art (and, so far as I know, non-existent) application generator would ask you questions about your problems, think about it a while, and then build a program that would solve your problems while you go to lunch. That's the ideal, largely unrealized at present.

The *dBASE III Plus* Applications Generator does nothing to advance the state of the art in this area. True, it will automatically create programs to maintain a single data file (add, change, delete, and print the contents of the file), and it will let you link in your own programs into the menu structure that it creates, but that's about it. It's not capable of automatically solving any but the simplest of problems, ones which could be handled by already easy-to-use programs like *pfs:File*. Creation of multi-level menus is cumbersome. Ashton-Tate should take another look at the Application Express included with *R:BASE 5000* (itself not perfect, but much more sophisticated than *dBASE*'s).

Performance And Convenience: Ashton-Tate has added some facilities which aim to make it more convenient to set up and re-use a complex set of file relations and/or search conditions. The most significant of these additions is the concept of a view. This allows you to set up an entire "environment," consisting of a number of databases and their interrelationships, indices, and other associated files with a single statement. I can see this tool as being very useful for situations in which a programmer is required to set up the basic file relationships, but a non-programmer wants to manipulate and analyze the data. From the Assistant, the user can simply choose the "Set Up View" option, choose from a menu of available views, and voila! he's ready to roll. This is a worthwhile and useful facility.

Unfortunately, there's a glaring problem in that views can only be created if all referenced files are in the same subdirectory as *dBASE III Plus*. The documentation indicates that View will recognize databases at least one other subdirectory (the one specified by the *dBASE* SET PATH command), but I did not find this to be true.

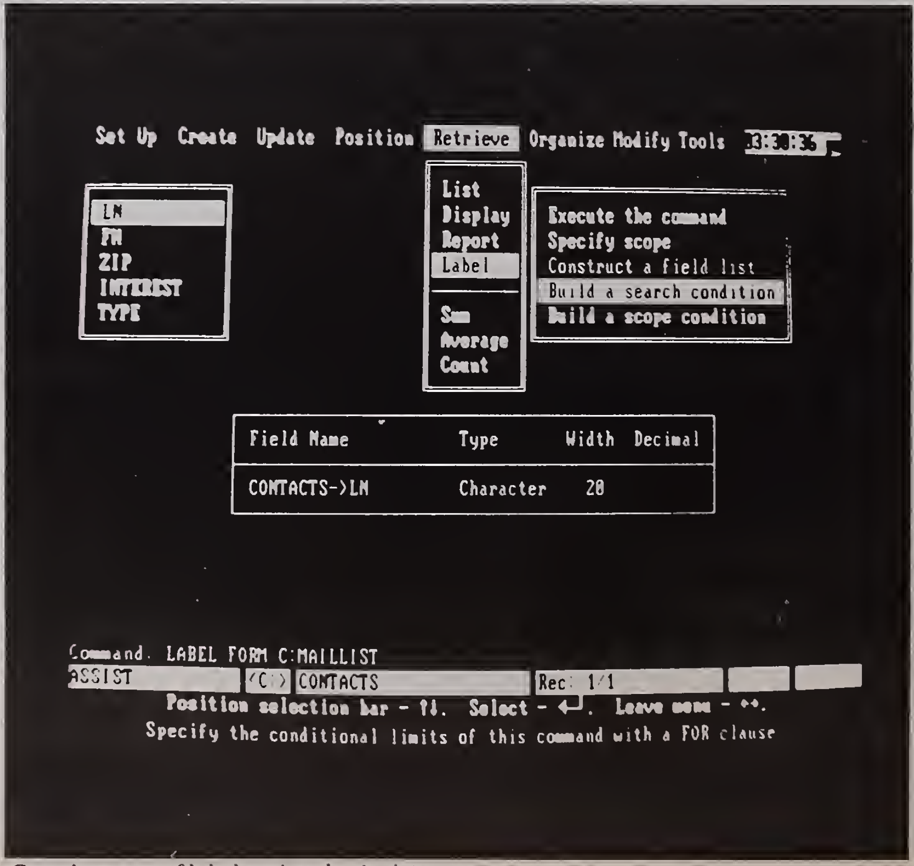
On the other hand, the query file and the new catalog facility don't seem too useful. Query files allow you to save search criteria to a file for later re-use: the catalog is a sort of documentation facility which attempts to keep track of the various extra files associated with a database. The query facility seems redundant with other, already useful, facilities provided in the Assistant, and the catalog facility was, in my testing, responsible for various annoying error messages with no clear benefit. It wasn't long before I disabled the catalog.

There's an important performance improvement over *dBASE III* in the area of indexing. Indexing a database is an important tool for speeding database queries and sorted listings. For my test, I took a database with slightly over 1000 records and created an index based upon a four-digit ID number included in each record. *dBASE III* took six minutes and 52 seconds to perform this task, while *dBASE III Plus* took only two minutes and 10 seconds — three times faster than *dBASE III*.

With *dBASE III Plus*, Ashton-Tate has made life easier for programmers too, by improving the debugging facilities tremendously and adding a command line recaller. When *dBASE* encounters a syntax error in a program, the developer now has the option of issuing a few *dBASE* commands and then resuming the program at the point of interruption (using the new RESUME command, of course). In addition, all variables can be examined, whether they're private or public — a somewhat esoteric but devoutly-to-be-wished improvement.

The command line recaller is merely a convenience feature, but what a convenience! It eliminates tiresome re-typing of *dBASE* commands with errors in them. By pressing the up-arrow key repeatedly, you can call back the last 20 *dBASE* commands to the dot prompt, and actually edit them before executing them.

There are too many additional features to go into every one in detail, but they include an integrated, convenient screen painter for designing data-entry forms, new commands which allow you to easily enclose your menus in single or double boxes, the ability to handle multiple-screen data-entry forms, easy import and export of data in *pfs* format, a more consistent implementation of



Field Name	Type	Width	Decimal
CONTACTS->LN	Character	20	

```
Command. LABEL FORM C:MAILLIST
ASSIST          <C:> CONTACTS          Rec 1/1
     Position selection bar - ↑↓.  Select - ↵.  Leave menu - ←→.
     Specify the conditional limits of this command with a FOR clause
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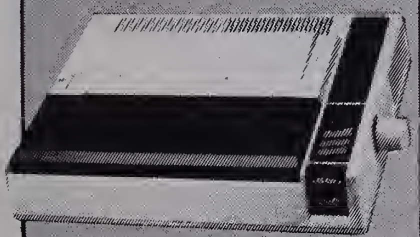

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the Set Unique command, the ability to incorporate assembly language subroutines into programs (which was in *II* but not *III*), ability to tell when special keys have been pressed from within a program, more string functions, ways of intercepting errors, and ways of knowing from within a program which files are open in which work areas. Most of these are features which will enable *dBASE III Plus* programmers to create smoother and more usable applications, and they represent real improvements to *dBASE III*.

Fixed Bugs And Continuing Quirks

I've encountered several problems in the course of using *dBASE III*. Most of these were quirky sorts of things that are only important to programmers, but a large part of *dBASE* is the programming language, after all. I checked to see whether they'd been remedied in *dBASE III Plus*, and to my surprise and delight, the two major *dBASE* bugs that were getting in my way have apparently been fixed. In the first place, *dBASE III* had problems with the SET FILTER TO command if the filter condition involved a related database. Secondly, an "unrecognized command" error would sometimes occur if a program within a procedure file called a program outside of the file (the error would occur upon attempting to return to the calling program). I've found at least one example of each of these problems within *dBASE III* which worked properly under *dBASE III Plus*.

dBASE III Plus still has a strange and inconsistent way of evaluating equality for blanks and empty strings. This sounds trivial, but it often comes up in programming menu-type situations, because a default response (hitting the <Return key> key) will usually result in some variable being given a value of either a blank (' '), or the empty string (''). Strangely enough, to *dBASE*, the expression

''=' '

is false, whereas the opposite expression

' '=''

is true. Go figure.

The *dBASE* report generator is somewhat improved, but it remains incapable of creating reports which include data from more than one file. This has always been a weakness of the *dBASE* line, and *dBASE III Plus* leaves the market wide open for the *dBASE* add-on product industry.

Copy Protection

dBASE III Plus has the same type of copy protection that *dBASE III* had, although the documentation is more honest. Imagine my surprise when I read in the manual that using the DOS RESTORE command on your root subdirectory would render your installed copy of *dBASE III Plus* unusable. Presumably, non-DOS backup/restore programs such as *BAKUP* and *FASTBACK* would also have a negative impact.

I commend Ashton-Tate for being honest about the consequences of their copy-protection scheme (although only in the middle of the manual — it should be emblazoned on the cover of the package). The company is no worse than any other, but it still strikes me as arrogant to interfere with a critical function like RESTORE. Anyway, as far as I can see, the documentation is the best form of copy-protection. It's very hard to make a convenient and usable copy of such massive documentation, and very difficult to use the program effectively without it. I guess that the company is still smarting from the thousands of illegitimate copies of *dBASE II* that undeniably were popping up everywhere. Nonetheless, it was the proliferation of the product through this type of illegal copying that gave the company the exposure and visibility that helped to make it what it is today. Furthermore, *dB II* had a terrible manual, which was that much less incentive for people to buy the product. Even though schemes for unprotecting *dBASE III* are available on many public BBS systems, I have never encountered a pirated copy of the program in the field.

If you're a developer who uses both *dBASE III* and *dBASE III Plus*, then the copy-protection may send you straight to the funny farm. You may actually want to have both installed on your system at once — e.g. in the case where one of your clients is using *dBASE III* and another is using *dBASE III Plus*. Since the copy protection schemes for the two products can't co-exist on the same hard disk, this situation could get ugly.

What are your options? You could buy the product and only use it with a key disk, without installing it on the hard disk. Or, if you're a large corporation, you could obtain a site license and get a bunch of unprotected copies. The license agreement that comes with the product prohibits you from making any attempt to defeat the copy protection, even if your only purpose is to put the program cleanly on your hard disk without having hidden files. For some people, that agreement may be just too much to agree to.

The Bottom Line

If Ashton-Tate continues to put out products as good as this, there's a good chance that they will be able to maintain dominance in the PC database world. Even if you have no use for the networking capabilities of the product, the large collection of more-or-less minor improvements add up to a very desirable upgrade for power users. (*dBASE III Plus*, $695.00; *dBASE III Plus LAN Pack*, $995.00; *dBASE III* to *dBASE III Plus* upgrade, $140.00 through the end of June. Ashton-Tate, 20101 Hamilton Ave., Torrance, CA 90502-1329 (213) 204-5570.) ☐

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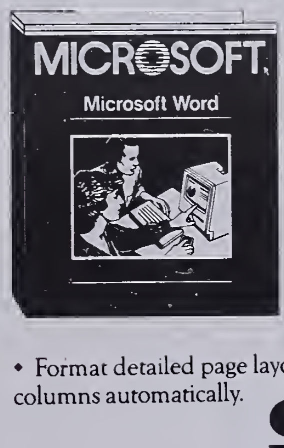

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MacBottom: Compact Data Storage For Macs

By Barbara J. Chan

Nothing beats a hard disk drive for high-capacity storage, flexibility and speed. While I admire the Paradise for its ergonomic design and functionality, the HyperDrive for its interior installation, the Corvus for its networking features, and the Apple HD 20 for its Hierarchical File System (HFS), I am most fond of the MacBottom. As a writer on the go, I want lightweight portability and durability.

Personal Computer Peripherals Corporation has done it again: this year they released the 20 megabyte MacBottom. Weighing in at five pounds, with dimensions of 9-½" × 9-½" × 2-½", this drive fits neatly into my briefcase when I'm on the run. When I get where I'm going, I plug it in and boot it up. With the MacBottom supporting my Macintosh, the extra 2-½" height gives a short person like me just the right perspective without having to crane my neck.

The MacBottom Startup Disk comes loaded with goodies: MB Utilities, MB Backup, Floppy Copy, ElectricStart and MB Panel. I made a working copy of this disk and loaded my System20 Volume (4000K) with various applications: word processing (*Think Tank*, *MacWrite*, *MS Word*, *Mac Indexer*, *Hayden Speller*), graphics (*MacPaint*, *Paint Cutter*, *4Paint*, *MacDraft*, *Graph*, *MacDraw*, *JoyPaint*), utilities (*Font/DA Mover*, *Packit*, *ResEdit*, *FEdit*), and special programs like *PageMaker* and *ReadySetGo*. Then I created separate volumes to handle different kinds of work:

- CORRESP: This volume holds all my correspondence.
- DATABASE: Applications include *FileMaker* and *OverVUE* with various database files of over 230K each. *FileMaker* can sort 358 records with 13 fields at three levels in 2:07 minutes. Faster than the speed of a floppy!
- EDITORIAL: Each month I loaded the copy which writers submitted; this usually amounted to 400–500K
- TELECOMM: Here I installed *MITE*, *ProCom-M*, *Red Ryder*, *MicroPhone* and *MacTerminal* communications applications for transmitting data to and from writers and typesetters.
- FINANCE: I set up *The Home Accountant* system in this volume.

MB Utilities

MB Utilities, located in your System 20 volume, is your volume manager. By pulling down the Create & Grow Volumes menu you can create, enlarge, shrink, add, erase and remove volumes in 400K increments with just a click of the mouse. This is also where you define the size of your MacBottom print buffer. The buffer comes with about 1200K assigned to it, but you can reduce it to zero (which actually leaves it with 200K) or increase it as much as you wish.

If you wish to define which volumes will appear on startup, pull down the Change Startup Volumes menu and click on the names of those volumes you want to appear on your desktop each time you boot up.

With the Lock/Unlock Finder function you can lock the Finder so it uses one specific system on the hard disk when you have several installed. I leave my System20 Finder unlocked so I can access the Laser system in my special volume. That system has special LaserWriter and Linotron fonts and is equipped for the AppleTalk network installed at my local typesetting center. MacBottom must be connected to your AppleTalk-ed Macintosh via the modem port; the LaserWriter should be hooked up to the printer port. Note that the LaserWriter cannot use the print spooler in MacBottom because of this connection.

Some people like flexibility in the startup floppy disk itself so they can define which volumes will appear on

Author note: Barbara J. Chan was formerly editor of The MACazine. *She is now a freelance writer, trainer and consultant and can be reached via GEnie: BJCHAN.*

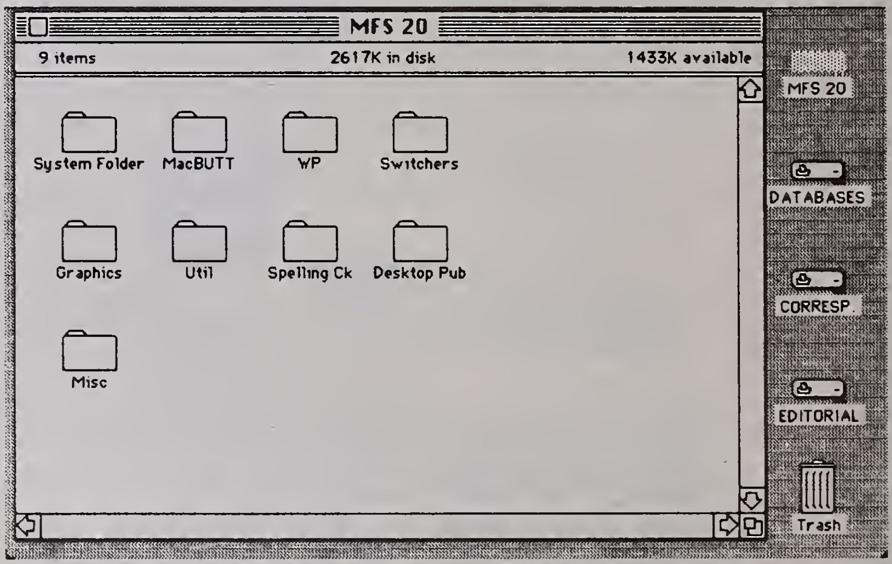
MFS 20
9 items
2617K in disk
1433K available
System Folder
MacBUTT
WP
Switchers
Graphics
Util
Spelling Ck
Desktop Pub
Misc
MFS 20
DATABASES
CORRESP
EDITORIAL
Trash

Figure 1: MacBottom desktop.

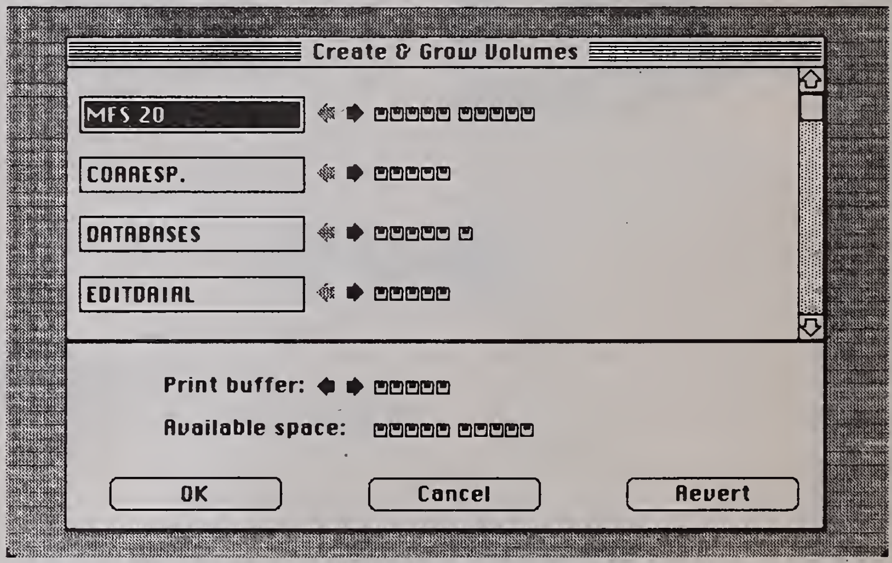
Create & Grow Volumes
MFS 20
CORRESP.
DATABASES
EDITORIAL
Print buffer:
Available space:
OK
Cancel
Revert

Figure 2: Creating and Growing volumes in your MFS system.

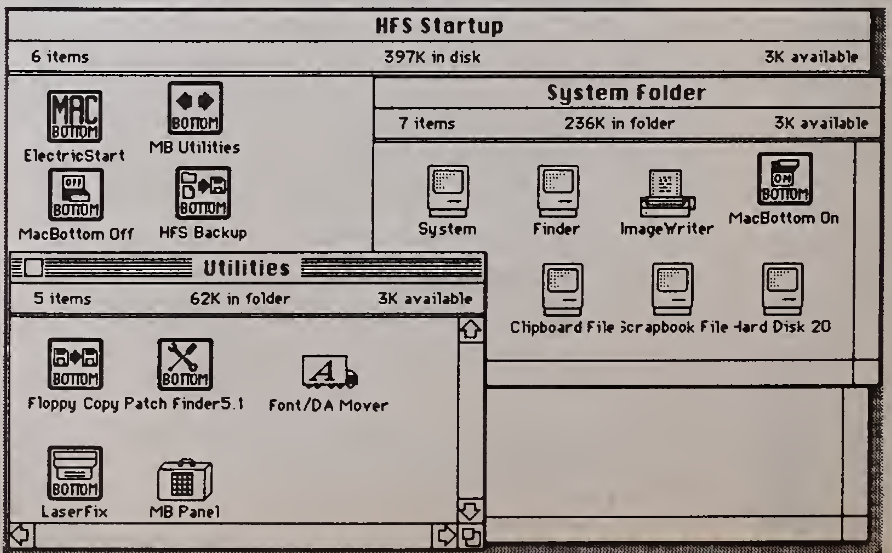
HFS Startup
6 items
397K in disk
3K available
ElectricStart
MB Utilities
MacBottom Off
HFS Backup
System Folder
7 items
236K in folder
3K available
System
Finder
ImageWriter
MacBottom On
Clipboard File
Scrapbook File
Hard Disk 20
Utilities
5 items
62K in folder
3K available
Floppy Copy
Patch Finder5.1
Font/DA Mover
LaserFix
MB Panel

Figure 3: MacBottom's HFS startup screen, system folder and utilities.

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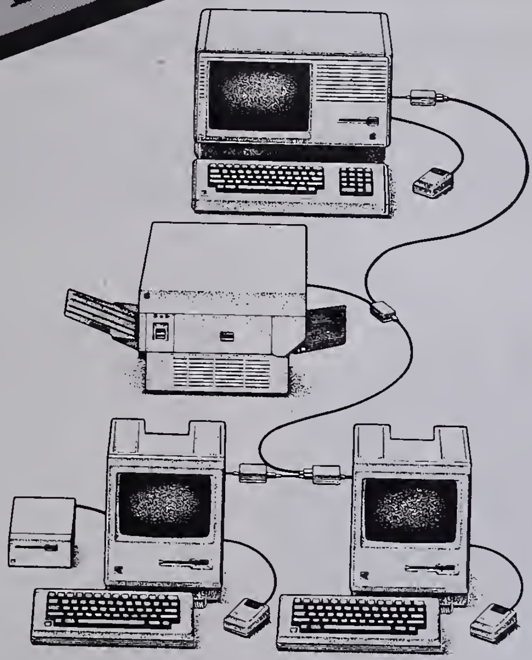

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If you are looking for a hard disk drive which is easy to use, durable and portable, test drive the MacBottom.

the desktop upon booting up. With Customize ElectricStart, you can define those volumes and use different startup floppy disks for different needs. However, I never use this, for the MB Panel desk accessory is a handy tool.

MB Panel

This Desk Accessory lets you insert or eject named volumes. It contains the Flush Buffer feature which, when clicked, flushes out all the data in the MacBottom's print buffer. I often use this to abort and clear a text printing job which I've decided to edit midstream.

Floppy Copy

This application is a handy tool; you can quickly copy your disk data to another floppy disk, using only one disk insertion. And you can make duplicate copies of the same disk without having to insert the original. For single drive users, this is a real plus.

Backup

With all the horror stories we've heard about fellow Macintosh users losing their data through some mishap, we ought to know by now that we should back up all our work. MacBottom provides a handy Backup application with which you can back up entire volumes, selected files, or changed files onto floppy disks. The backed up data cannot be read when you examine the disk in your Macintosh, because the contents of the disk have been compressed into less space than the formatted files take up. By using the Restore utility, you can restore all the files, selected files, or just those you've changed. These features provide an economical way of backing up and storing your data.

Documentation

The preliminary documentation supplied with the hardware contains the basic information you need to set up and run MacBottom. To some extent the documentation is poorly organized: information about using locked or unlocked finders was found in Chapter 2 (About MacBottom Volumes), and Chapter 3 (MacBottom Software: MB Utilities). I found myself flipping back and forth between various sections to glean all the information I needed.

I would like PCPC to include information in the manual about installing desk accessories in the MacBottom system, as this can be a little tricky. Certain DAs don't work consistently while running *Switcher 4.4* or 4.6 (e.g., *WordCount*, a public domain DA, *FileFinder* from Nashoba Systems, or *Disktools* from BatteryPak). Sometimes *DiskTools* tells me I haven't enough memory when I actually have 450K available, or *FileFinder* tells me it cannot delete a file because it is already open when this is not the case. *WordCount* bombs the system sometimes when I open it over an already-opened *MacWrite* or *MS Word* file. This is probably not due to any fault of MacBottom, but to the way these accessories work in conjunction with a hard drive system.

Late-Breaking Update

Just as this article was submitted, PCPC released version 2.6 of their MFS system, version 2.6 of the HFS system for MacBottom, an HFS backup utility and a much-improved manual. They have also released a generic backup utility which can be used on any hard disk drive with an HFS system.

A few clues on using HFS:
- Set up a large HFS volume which includes your system, finder, applications, and documents. Once installed, the size of your HFS volume cannot be changed.
- You can access MFS documents or HFS documents when operating in HFS.
- You can only access MFS volumes when running under MFS.

Conclusions

If you like what PCPC has done with MacBottom, look for their new typesetter/plotter with a 1,000 line resolution per inch. This plotter will be available for Macintosh users later this year.

If you are looking for a hard disk drive which is easy to use, durable and portable, I recommend you test drive the MacBottom. Whether you choose a 10 or 20 MB, I'm convinced that you will be satisfied. (MacBottom 20MB $1495.00, Generic HFS Backup utility $39.95. PCPC, 6204 Benjamin Rd., Tampa, FL 33614, 813-884-3092 or 800-MAC-BUTT.) ☐

AMQ Portables:

Don't Call Them Clones!

By Paul Hoffman

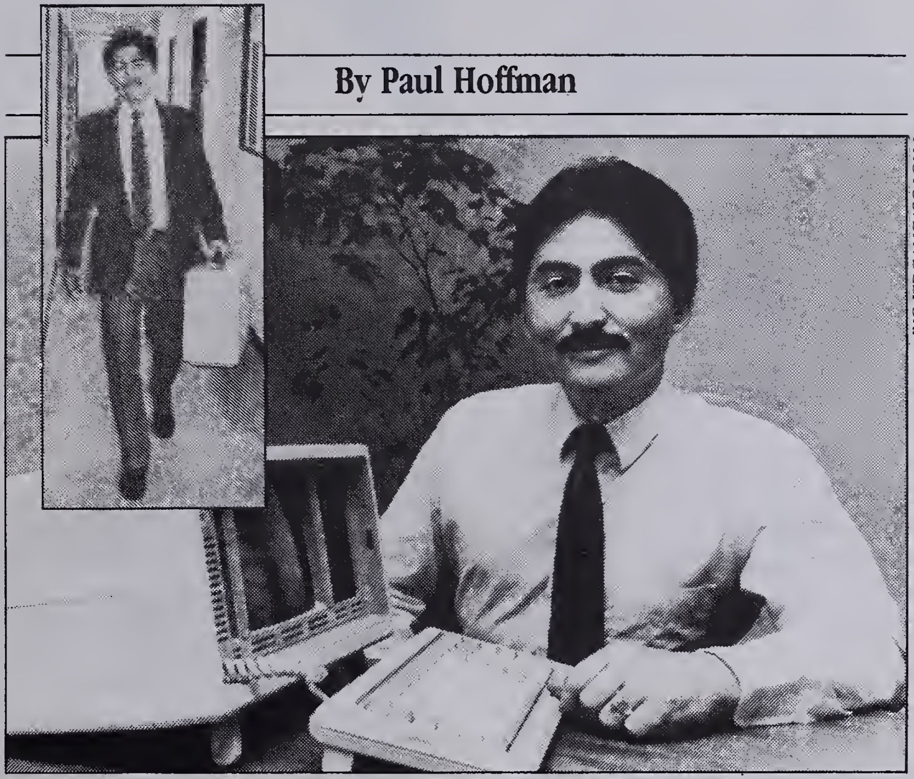
In the microcomputer industry, words like "compatible" and "clone" are tossed around so much that their definitions become blurred. Manufacturers can call their computers whatever they want, and many don't care what you call their computer as long as you buy it. AMQ Inc., on the other hand, is very particular about the labels on its products.

Roman Gil, director of marketing at AMQ, asserts, "We make compatibles, not clones." What is the difference? "A clone does just what the IBM PC does in exactly the same fashion. Our computers are faster, smaller, and lighter. Of course, they run all of the IBM PC software too."

All of AMQ's computers come in the same box. In fact, they are all based on the same motherboard (the board that contains the computer's CPU chip, memory, and so on). When they first came out more than a year ago, they were significantly smaller and lighter than the best selling compatibles from Compaq. Compaq's newest computer, the Compaq II, is almost exactly the same size as the AMQ.

"I guess you can say that Compaq cloned us," Gil jokes. However, the AMQ models are also much less expensive than the Compaq models and offer a longer warranty. "In addition, we've got more expansion slots, more memory, and internal RGB color graphics." What this adds up to is a small, scrappy company that is competing well with the big contenders.

For example, the Compaq AT portable has 640K of RAM, a 10 megabyte hard disk, and one CPU; it costs about $5000. The comparable AMQ model has 2.7 megabytes of RAM, a 20 megabyte hard disk, and two CPUs; it costs around $4000. This performance and price difference gives AMQ a definite advantage over larger, more established companies like Compaq or the Japanese giants.



PHOTOS: DAVE LEPORI

AMQ's Roman Gil emphasizes that the efficient, portable computer is more than a simple clone.

AMQ has recently introduced two IBM PC AT-compatible models. Following their corporate policy of staying with the same box, AMQ designed the AT-compatible to be a computer on an expansion board. The board's 80286 CPU does all the computing, and the 8088 on the motherboard runs all of the input and output. Since the 80286 runs at 8 MHz, the result is a computer that runs 60% faster than the IBM PC AT.

Other companies make expansion boards that have an 80286 on them, but these boards do not turn your IBM PC into an AT. "These boards are 'turbo' boards; they can't run AT programs," Gil explains. "There is nothing compatible about them." On the other hand, the AMQ board will run all IBM PC AT software. The AMQ 80286 board has an IBM AT-compatible ROM BIOS made by Phoenix, the most respected supplier of compatible ROMs. It is the same BIOS used by AMQ's competitors such as AT&T. The people at AMQ spend a great deal of time explaining to customers just what is and is not compatible.

Many compatible manufacturers have a hard time keeping their customers coming back, since they offer distinct models for the PC and AT lines. AMQ, on the other hand, can let previous customers upgrade their PC-compatibles to AT-compatibles. Now that many programs are appearing that only run on the AT, many current PC users are worrying about how they will be able to run these new programs. AMQ customers can get a fairly easy upgrade to full AT compatibility. Of course, this makes AMQ's bottom line look a great deal better than that of many competitors.

The little touches count, too. For instance, AMQ computers come with 704K of RAM instead of the standard 640K. Gil explains, "In the future, the 640K barrier will go away and AMQ users will have a jump on everyone else. For now, that memory can be used as a print buffer."

A company like AMQ must do much more than just sell good computers to stay in business, though. "A solid, long-term warranty has closed many sales for us," according to Gil. AMQ offers a one year parts and labor guarantee with all of its computers. With most competitors offering only 90 days, this put AMQ in a position to make more sales to large corporations.

If anything goes wrong with an AMQ computer under warranty, the user can send it back to AMQ for repair. The turnaround is usually less than five business days. For the demanding user, AMQ offers on-site service contracts for $200 a year. With on-site service, AMQ customers get a repairperson fixing their computers in under eight hours. "While this may sound extreme, you would be surprised how many sales that this service contract has helped make."

These advantages have helped AMQ grow extremely quickly. AMQ (formerly known as "AMQUTE") now has its manufacturing plant in Sunnyvale, separate from its corporate offices in Campbell. In 1985, AMQ sold nearly 10,000 computers, and it expects to more than double that figure this year. They are also changing their marketing strategy in 1986.

Last year, almost all of AMQ's sales were direct to customers. Gil explains that, "while this was fine for our situation then, we now want to be selling much more to dealers and VARs." AMQ is already signing agreements with major dealers to sell the entire AMQ line.

Fortunately for AMQ, customers' tastes are fairly predictable. Even though AMQ offers five computers, only two of them accounted for 90% of AMQ's business. The most popular model was the AMQ IV, which is compatible with the IBM PC XT. In fact, over 70% of AMQ's sales were for this model. The current price for the AMQ IV is $2195. Another 20% was for the AMQ AT286 with 2 megabytes of memory, priced at $2995.

"Our growth will follow the PC market," Gil says. With the price of IBM's computers coming down, many industry analysts think that some compatible manufacturers will go out of business. However, AMQ has prepared for the future by offering a line of computers that's quite distinct from most of the other manufacturers. "Don't underestimate the value of extra features such as portability. You can carry your AMQ computer around a lot more easily than other so-called portables." And, of course, extra features and low cost don't hurt either. (AMQ, 1901 S. Bascom Ave., Suite 340, Campbell, CA 95008, (408) 559-0781.) ☐

User Groups Save Orphan Computers

By Tim Tyler

Being the owner of an orphan computer is almost like being an effective baseball pitcher whose team doesn't score any runs — you've got the power, you just don't have the support. The pitcher might luck out and get traded to a hard-hitting team. But if you own a computer that virtually nobody cares about anymore, what can you do?

All is not lost. Many user groups offer full support for orphan systems. These user groups act as foster parents to machines abandoned by their parent companies and often oversee the continuing development of machines they support. Two such groups are active in California — the Gavilan User Group in Sunnyvale and the LA 99ers in Torrance. Thanks to a healthy collaboration between vendors and users, both groups have achieved rebirth and growth of their computers-of-choice.

The Gavilan User Group supports those who own the Gavilan portable, a machine which briefly appeared on the market in 1983 prior to its manufacturer's demise. One of the primary causes of the portable's failure in the marketplace may be the fact that the developers were half an inch off in designing its disk drive—Gavilan designed the portable with a 3" drive, unaware that the industry as a whole would soon settle on 3½" drives as a standard. In order to meet the needs of customers, Gavilan ordered a massive quantity of 3½" drives; a backlog resulted, closely followed by bankruptcy. Gavilan ceased operations in 1984.

Bob Brown, program coordinator for the Gavilan User Group, elaborates: "Gavilan was simply not a multi-million dollar corporation to begin with, and when the 3½" disk drives were not immediately available, there was no way they could keep afloat in the open market. The fact that their portable was a high-priced machine aimed at the attache-case-carrying customer did not help matters, either. Essentially, Gavilan died in its own backlog."

However, at least in the San Jose area, there were plenty of portable users who refused to give up their machines. They joined forces with six local vendors, and the Gavilan user group was born.

Brown himself did not join the group until the third meeting — where he was promptly sworn in as program coordinator. In point of fact, he was only at the meeting to get information on the Gavilan portable he had bought for his teenage son, but the group was in the process of selecting a new leader, and, he says, "since nobody else wanted the position, I took it . . ."

The group was involved in a special project — building 1500 new portables from Gavilan's remaining stock (which had been bought up by the vendors at a Chapter 11 auction). There was, however, an unusual twist — the new portables were going to be radically different from the original, unsuccessful ones.

As Brown tells it, "When Gavilan went out of business, they were right on the brink of making the portable MS-DOS compatible, but they never had enough time to field-test it. Also, the portable had quite a few bugs, it was slow-running and it had only the BASICA language, which left it in its own little world, as far as someone wanting to get any purposeful use out of it.

"What we did was take the computer from the front door of the company, remove all the bugs from it, and turn it completely into an MS-DOS machine."

The resulting machine, Brown says with pardonable pride, is "prob-

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Terrie Masters of the LA 99ers, one of the committed TI 99/4A users who refused to let the machine die.

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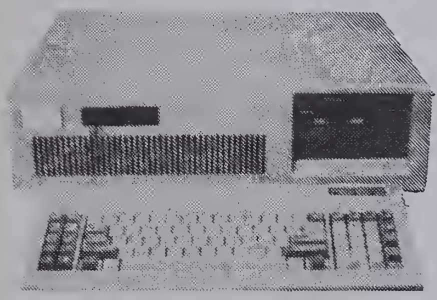

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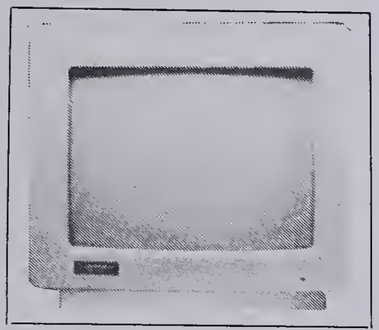

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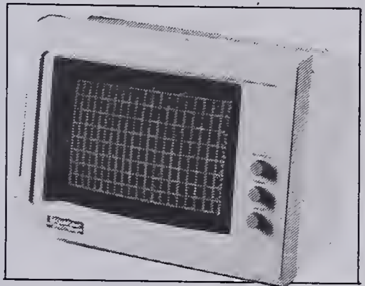

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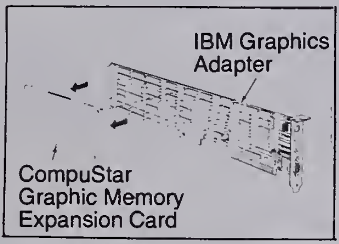

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ably the best little portable on the market, in terms of what everybody wants it to do." He may be right. It has a bug-free MS-DOS operating system, its memory was increased to 256K, and add-ons like a double-sided drive and a 20-megabyte hard disk are available. The new Gavilan is approximately 85% compatible with IBM, since the group set up the system with the standard GW BASIC.

The biggest problem Brown and his colleagues encountered arose from the shortage of technical expertise in the club—to this day, there are only three programmers in the group. The group overcame this difficulty with the help of both Gavilan and TRS-80 vendors and clubs. "They donated enough parts to help upgrade the machine," Brown recalls. "It was their effort that made it possible to build our portable."

Indeed, the keynote to the Gavilan club's success is the strong working relationship between users and vendors. "One of the things I noticed when joining the group was that the end-users and the vendors were not working with one another," says Brown. "Everything was fairly to the four winds; there was no correlation between the end-users, the vendors, and the product itself. What I did was oversee and stabilize the prices the vendors were charging, so they could deal honestly with the people; I also made it feasible for the vendors to interact as club members so that they could be an active part of the group. I developed an environment where club members and vendors supported one another to the point where we have had a smooth-running operation. It's worked out well so far."

According to Brown, the vendors have been willing to furnish modifications and modification part pieces to the club, along with any additional information they received concerning Gavilan portables. In return, the club members have wholeheartedly supported the vendors. "Actually, the vendors and end-users have to support each other to survive," Brown says pragmatically. "But in doing so, there has to be an atmosphere of trust between the two."

The group's strong ties with vendors have been a great asset to the group's ever-increasing membership — there are now an estimated 1500 members, and Brown is certain that there will be more. The way he sees it, "People are not hesitant to join our club, because they are assured of full support from the vendors. This gives members a sense of security."

The Gavilan group has members scattered all over the United States and abroad, including China, Russia, South America, and the Middle East. Brown says he reaches most members by a nationwide BBS network or simply by phone. "Every member has my phone number," he says. "If a person needs help, I'm usually the one to call, since I act as the pivot point for the whole Gavilan function."

You don't have to be a member of the club to benefit from it, says Brown, but it helps: "We send people a little care package if they need help, but there are a lot of advantages to being a member." Members have access to the group's public domain library, which includes practically all of Gavilan's programs, most of which are not available in stores. Members also get support for hardware and software seven days a week, and are able to get hard-to-find parts for their computers. Also, members have access to a comprehensive list of resources, such as private technical centers or vendors who specialize in repairs.

Brown doesn't expect the group to last forever. He estimates, "We have enough parts and pieces to last us for about the next five to seven years. Most user groups last only five years, anyway, because it gets harder to find support for an outdated system." Nonetheless, he's proud of the club's accomplishment. "The portable we made is a special application, and the reason it's special is because we created it" — with help from the vendors, of course.

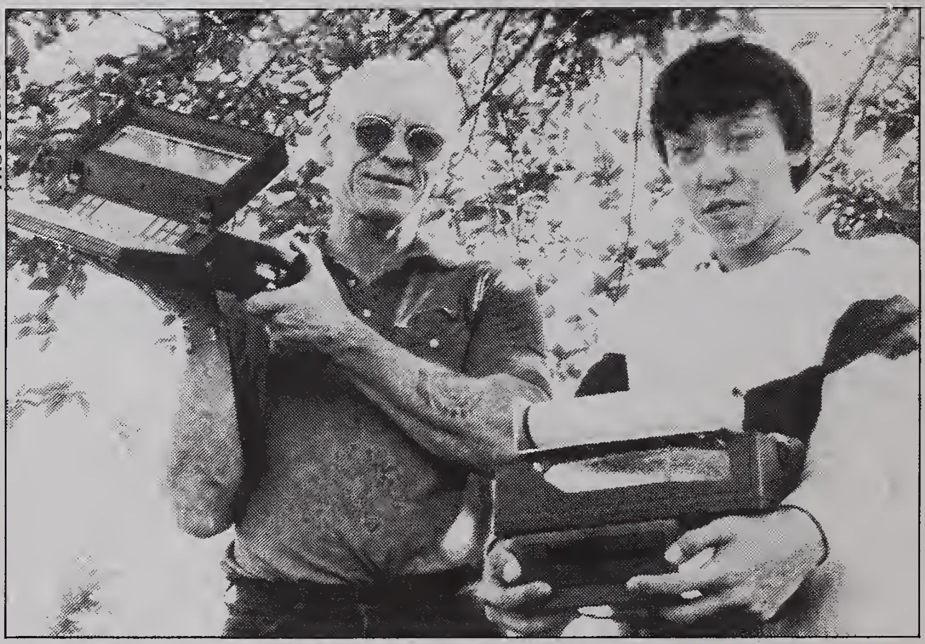


PHOTO: DAVE LEPORI

Gavilan Computer Club president Bob Brown and his son Sam show off the computer and peripherals created by a strategic alliance of users and vendors.

A similar case history is that of the LA 99er Computer Group, which also represents a healthy collaboration between users and vendors. The group supports users of the Texas Instruments 99/4A, and Terrie Masters has been its president for the last year and a half.

Unlike the Gavilan group, the LA 99ers banded together before their machine was orphaned. Several users in LA's South Bay area founded the group in 1979, and Masters joined in 1981 — two years before the 99/4A's "Black Friday." Her candid assessment of the TI's downfall: "The goal of Texas Instruments on the 99/4A was to keep everything in-house; they opted for incestuous rather than open architecture. The company discouraged any third party developers, and they even went so far as to place inhibitors in the system to disallow other manufacturers' modules from working in their computer. All of this was done to encourage people to buy only TI's computer products."

Not surprisingly, in a marketplace where even monolithic IBM was offering an open-architecture PC, this strategy backfired, and on October 28, 1983, Texas Instruments decided it wanted nothing more to do with the 99/4A.

Ironically, the 99/4A has enjoyed a resurgence of popularity since being cut off from its parent company, thanks in large part to developers like Myarc, Corcomp and Miller's Graphics. Says Masters, "Since people no longer had to be committed to TI's products, the third party market flourished in programming and hardware."

Take Myarc and Corcomp, for example, both of whom developed RS232 cards which give the 99/4A's disk drive double density. Myarc has also produced a highly popular expansion card that increases the 99/4A's memory from its original 32K to 512K. And Myarc also has a new system in the works that will give the 99/4A IBM compatibility. Reflects Masters, "This is not typical of an orphan community."

The evolution of the machine doesn't stop there. Miller's Graphics, one of the computer's most avid supporters, recently introduced the Gram Kracker, which allows the user to make custom modifications on almost any module for the 99/4A when putting it into diskette form. Masters herself used the Gram Kracker to make her system recognize five drives instead of three. "Frequently when you run a module program, you say to yourself, 'I wish I could do this or that,'" she says. "With the Gram Kracker device, your program can be made to do what you want it to do."

Like Myarc, Miller's Graphics is working to close the compatibility gap between the 99/4A and IBM. Earlier this year, the company released a keyboard card that goes to the peripheral expansion box, allowing IBM-style keyboards with programmability and macro capability.

Masters points out that several other companies also support the 99/4A. She says, "These companies are making sure that no one is lamenting the fact that they're stuck with a 99/4A. This is vital, as there is an unknown quantity of the machines in release — I'd say between one and three million.

"My son has an Osborne I, and while the computer does have its share of end-users, there are no manufacturers putting out new products for it. At least the TI community has support."

And Masters hopes to keep it that way for as long as possible. That's why she posted an irate message on CompuServe recently, voicing her displeasure with the practice of software piracy, a practice she perceives as "a threat to the TI community."

Track copiers, she says, are "Xerox machines to copy somebody else's disk, pure, simple, and nothing but. I have no use for them, especially in a closed society like ours. The hell of it is, companies like Miller's Graphics put out some extraordinary software for very reasonable prices. Then some pirate comes along and wants ten dollars for a track copier that will duplicate those programs. I find this destructive, not only to the TI community, but to the industry in general."

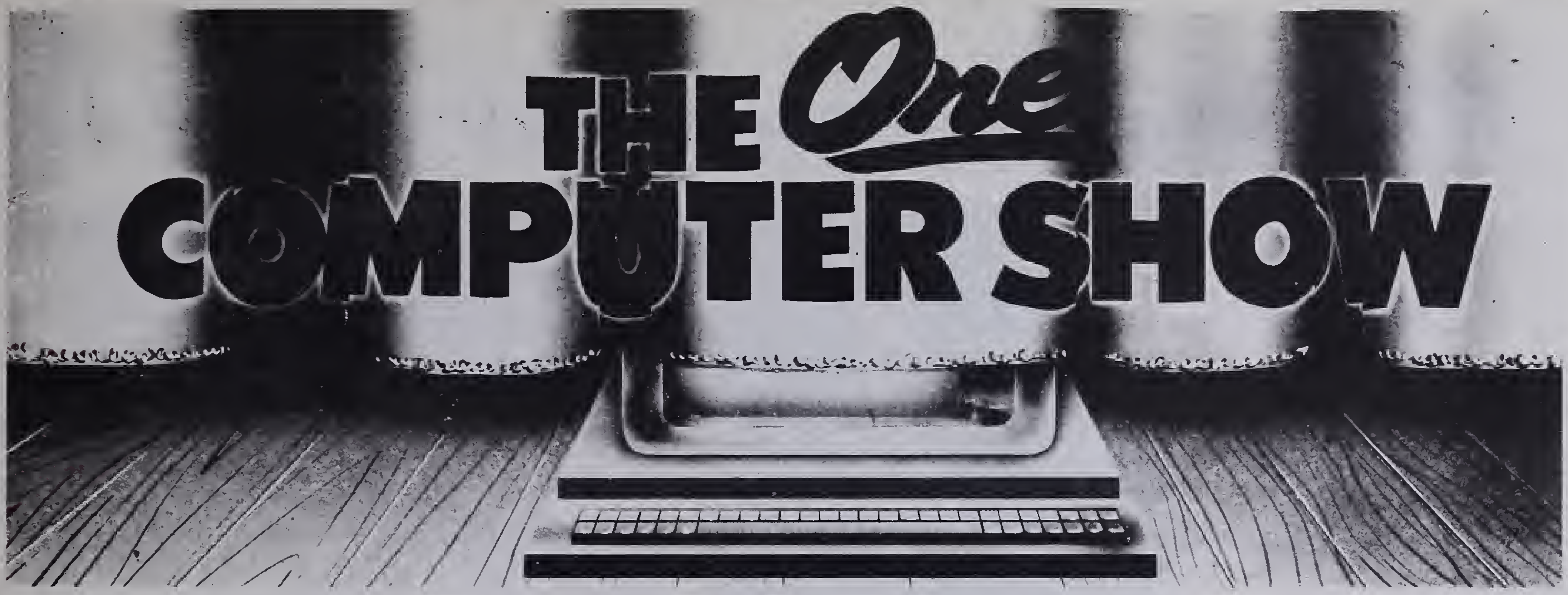
Not everybody on CompuServe agreed. She admits to having received a considerable backlash: "One person said I probably think of myself as the owner of California, and some merchant threatened to sue me if I didn't shut up. That tells me that these people are only in this industry for their own vested interests."

Like Masters herself, who's now serving her third term as president, the LA 99ers as a group oppose piracy, a principle in accord with their general outlook of mutual support and encouragement of innovation. Says Masters, "We are willing to accept new ideas for our club, which is why I encourage people to show up at our meetings and offer their suggestions. Our group frequently communicates with other TI user groups as a means to grow and learn from one another. We are also staunch supporters of shareware, though I call it fairware because it has made that many more programs available to us, and it is a major reason why the TI community has been able to thrive the second time around.

"I'm much more interested in giving to the TI community than taking from it, and that's what our club has done. We're here to help one another. No man is an island, you know."

And, with organizations like the Gavilan User Group and the LA 99ers as an example, no computer has to be, either. ☐

The Gavilan User Group meets on the second Thursday of every month at Lockheed Building 160 in Sunnyvale at 7 pm. Call (408) 379-2774 for information. The LA 99ers Group meets on the fourth Wednesday of the month at 7:15 pm in the Torrance Library, 3031 Torrance Blvd. in Torrance. Call (213) 271-6930 for information — out-of-area users are also invited to join.



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Gates Distributing celebrates its fifth anniversary

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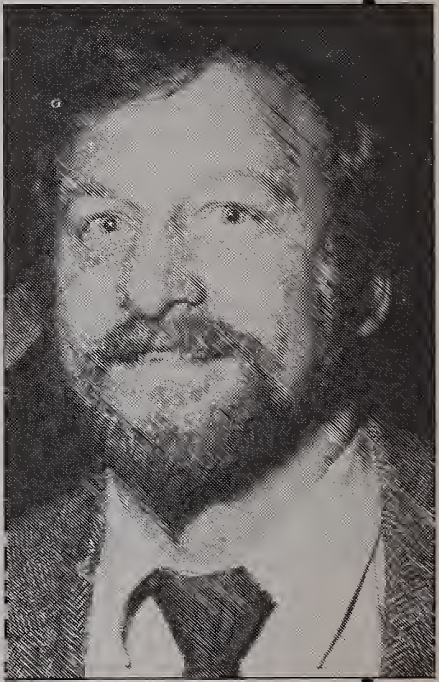
The band Anthem kept the crowd dancing all night; comedian Doug Ferrari held forth on a variety of subjects, and was last seen clutching a Hercules Clone-Smasher doll. *MicroTimes* publisher Dennis Erokan, no shabby bass player, regaled the crowd with a memorable version of the Blues Brothers' "Messing With The Kid"; much as we'd like to share this moment with you, however, all photographic evidence has mysteriously vanished . . .

Scheduled host John Dvorak, alas, was unavoidably detained 2000 miles away. As he tells the tale, his plane was tearing down the runway of the St. Louis airport when the pilot suddenly thought better of the idea and aborted the takeoff. Considerable delays ensued, and the indefatigible Dvorak turned up on the doorstep of Wolfgang's just as the club's staff was gently persuading the remaining partiers to go home.

We're already planning next year's version . . .

MICROTIMES

Brad McMillan of Visionary Electronics, with friend.



Ed Jackson of Mossland Technologies.

MicroFlash president Nancy Comstock, shown here demonstrating the finer points of dance, orchestrated an elaborate cake presentation for Gates Distributing's fifth anniversary—one cake for each year.

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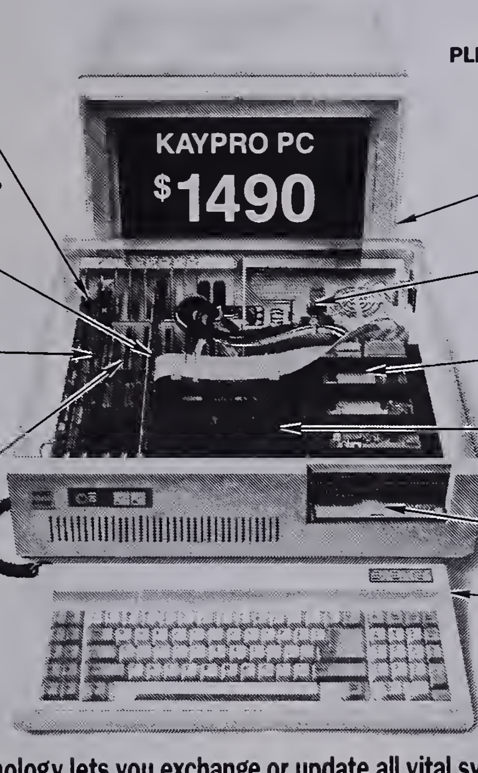

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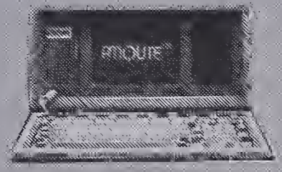

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Manny Manapat of Sci-Tech and his lovely wife Belen.

Dennis Gates and Jay Stewart of Gates Distributing.

The delegation from The Research Group: (l-r) George Rathbart, Richard Matzinger, Jan Dornbach.

Paul Terrell of Software Emporium and friend.

Antidote to a rough day at the Faire.

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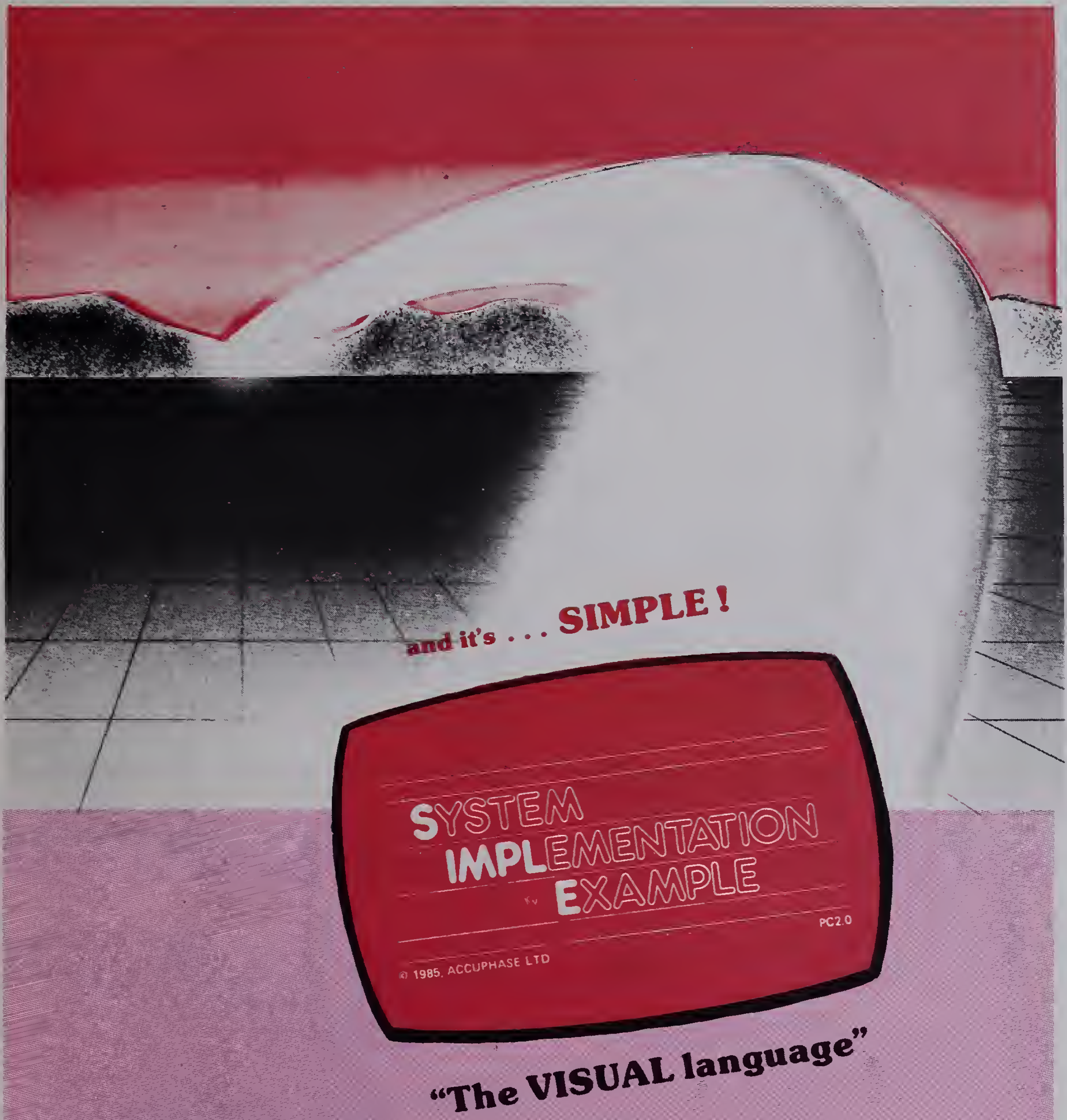

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Hewlett-Packard 7470, 2 pen	883
7475, 6 pen	1,547
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Hitachi HDG-1111, Tiger	833
HDG-2222	3,035
Houston Instr., DMP 29	1,693
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DMP 41	2,431
DMP 42	2,431
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DMP 52	3,684
DMP 52MP	4,791
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DT114	718
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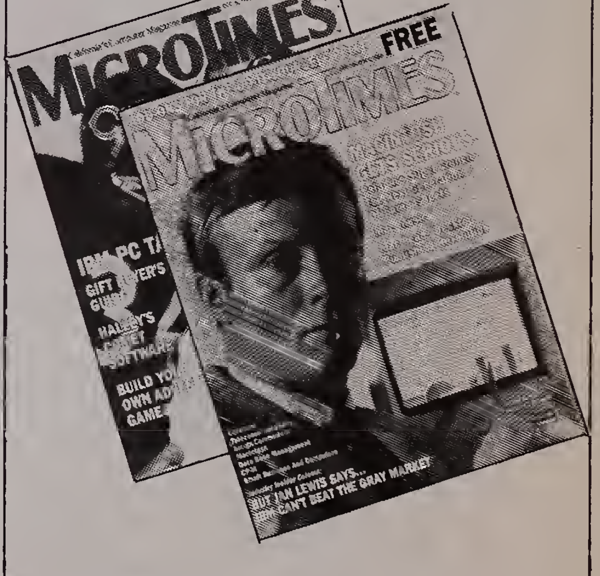
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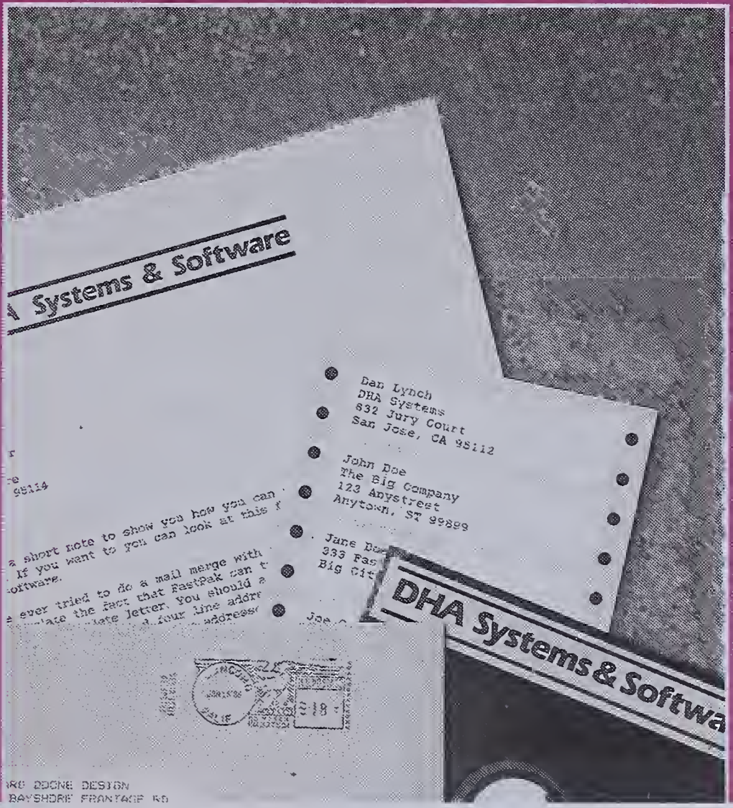

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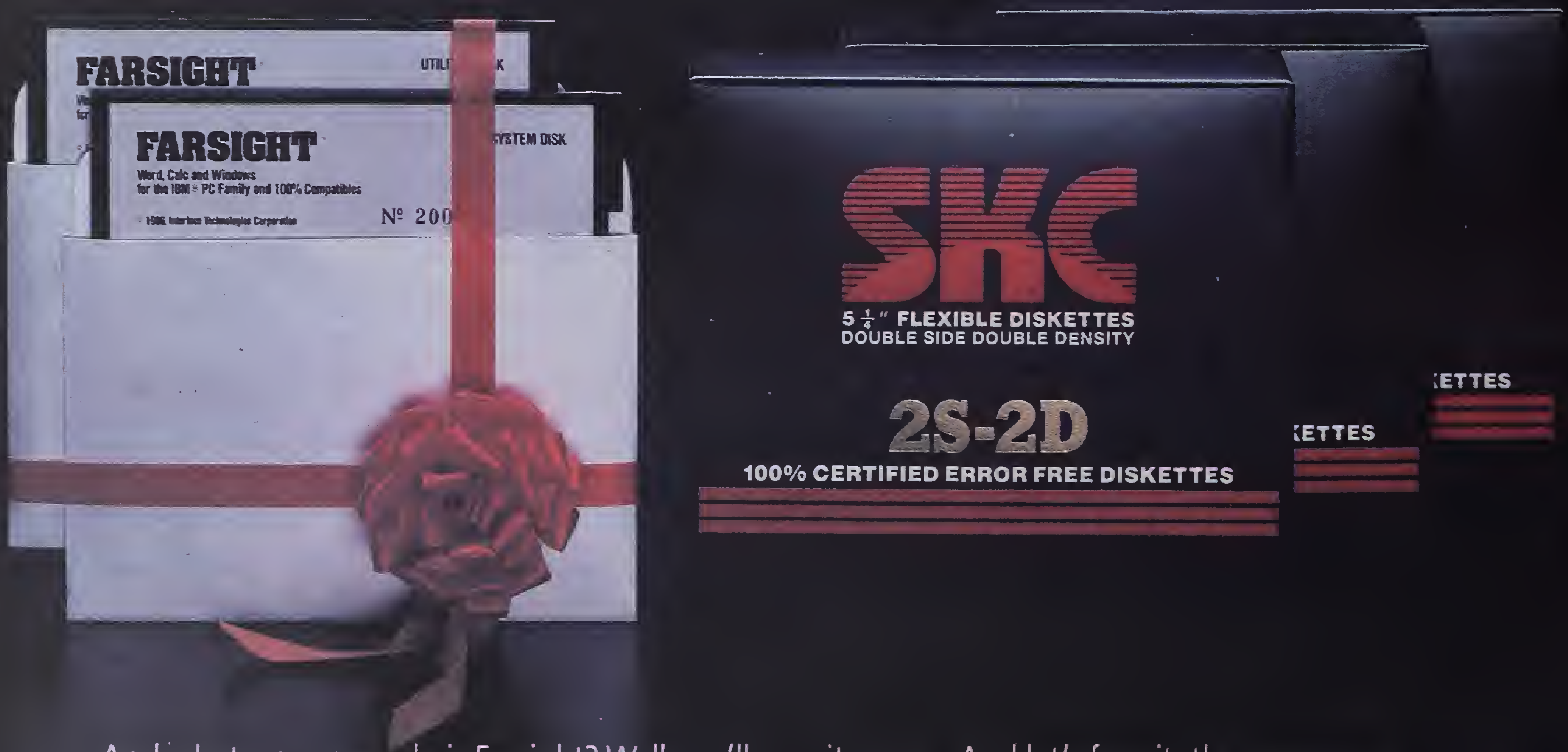
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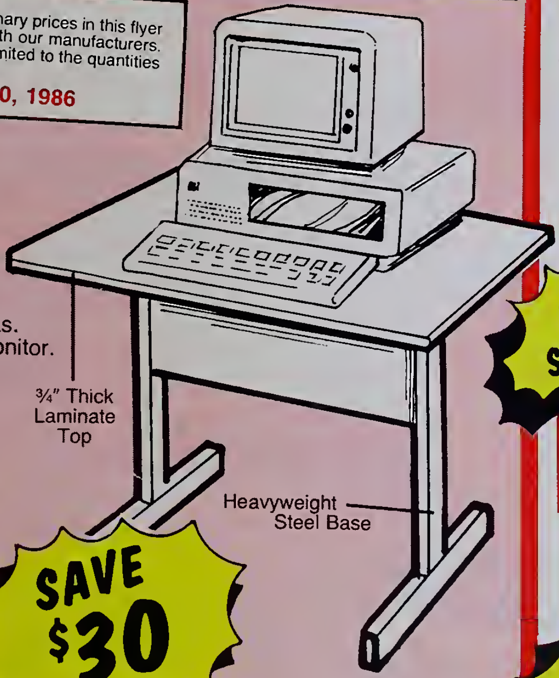

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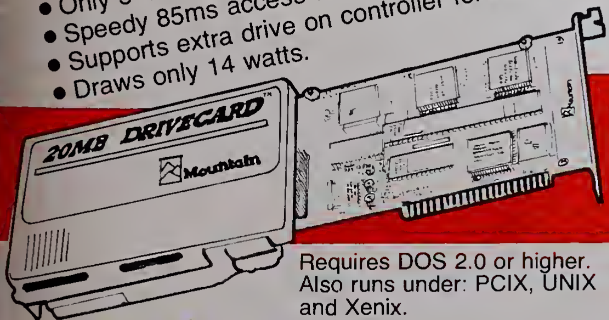

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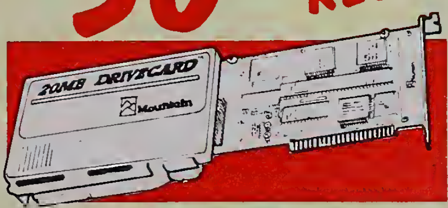

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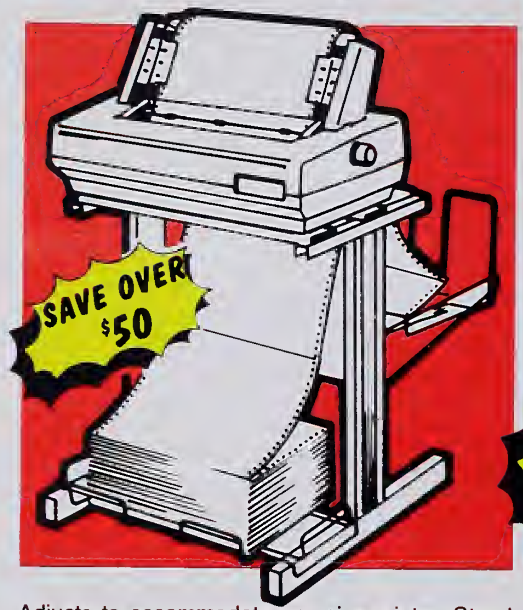

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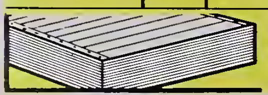

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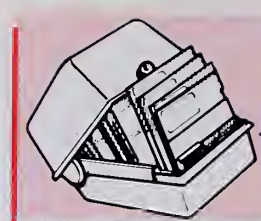

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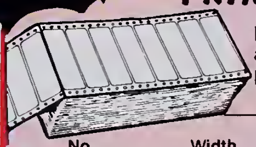

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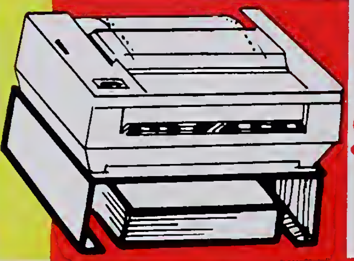

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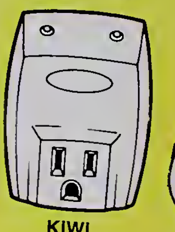

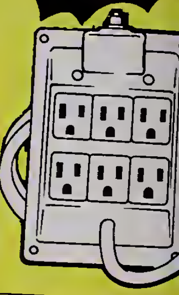

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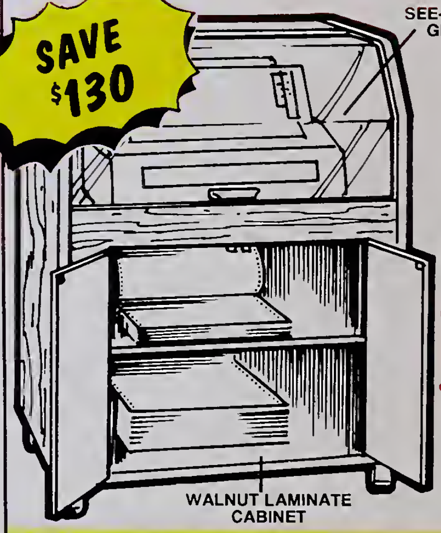

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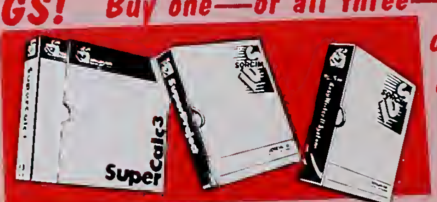

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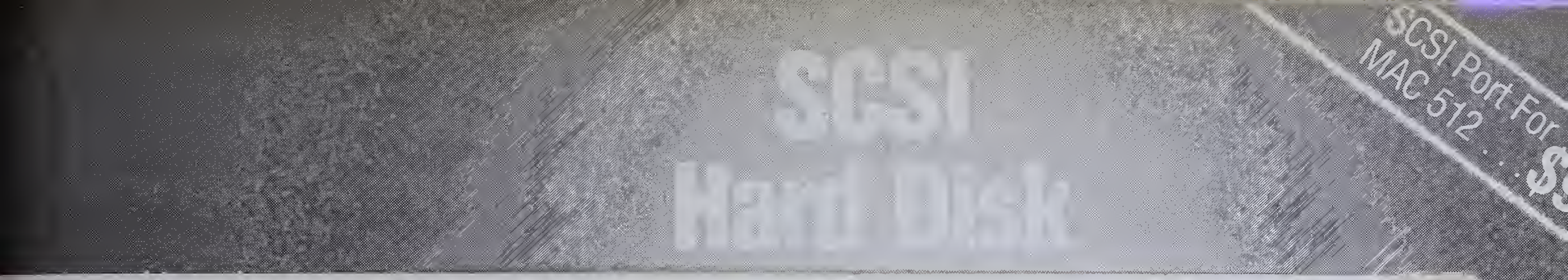

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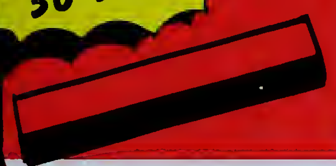

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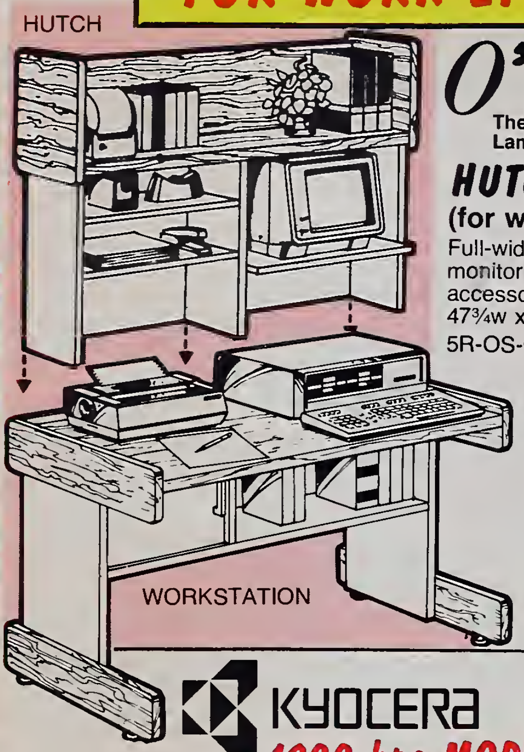
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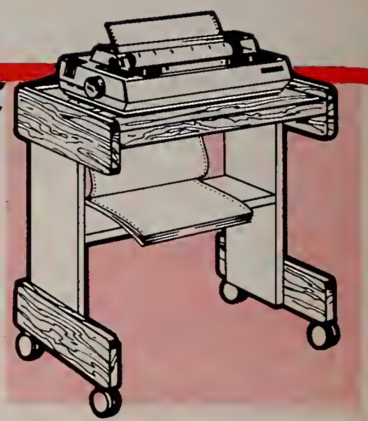

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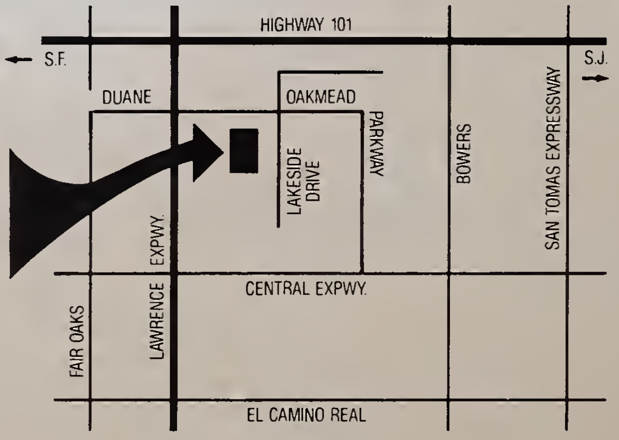
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Unix On Personal Computers: Options And Pitfalls

By Bennett Falk

Last month this column talked briefly about the history and lineage of the Unix operating system. From its history, it's easy to get the impression that Unix is not much of a consumer item, not something you could walk into your neighborhood computer store and buy. While this may have been true as recently as three years ago, it's not true now. Unix is definitely a consumer item; it just happens to be a much different kind of consumer item from, say, the Microsoft *Flight Simulator*. Unix will really have hit the mass market when you can buy a full Unix system on a CD-ROM for about $300, but that day has yet to dawn.

In the meantime, buying and selling Unix is a tricky business, and the Unix-related products at the West Coast Computer Faire (April 3–6 at the Moscone Center in San Francisco) illustrate this all too well.

Bear in mind that the Computer Faire is a show largely oriented to personal computers, and the Unix products on display at the Faire are products for such machines. These products are not the entire Unix marketplace by any means, but they are an important part of the ongoing development of Unix products.

THE OBVIOUS

The big marketers of Unix at the Computer Faire were, as might be expected, hardware companies: AT&T, IBM, and Altos all had large display areas with Unix-based systems featured prominently. The contrast among the three can be quite instructive. IBM was heavily promoting two different versions of Unix: RTX on the PC-RT and the IBM version of Microsoft's Xenix on the PC-AT. AT&T promoted Unix System V on several computer models, and Altos featured machines running Xenix.

Neither IBM nor AT&T was showing much in the way of application software. Both companies seem to believe that you should buy their computers simply because they run Unix. AT&T has a novel variation on this sales pitch: you should buy the 6300 Plus because it's a Unix machine that runs DOS. (The 6300 Plus is a very interesting machine that was introduced to the market prematurely in 1985 and now seems to be "all there." There will be more about this machine in future columns.)

For Altos, Unix is not such a novelty. Altos has had a strong line of multi-user machines running Xenix (Microsoft's version of Unix) for a least three years. Consequently, at the Altos booth computers were being shown for their functionality: the Altos people were demonstrating business packages, word processing, and database management software on their machines with Xenix running comfortably (and largely unnoticed) behind the scenes.

> **Most people who are shopping for Unix will buy it bundled with a computer. This isn't the only way to buy Unix, but it is probably the safest if what you are shopping for is the complete operating system. It is also the most expensive.**

Now, it is true that most of the people who are shopping for Unix will buy it bundled with a computer. This isn't the only way to buy Unix, but it is probably the safest if what you are shopping for is the complete Unix operating system. It is also, in spite of dramatic decreases in prices for Unix computers, the most expensive.

Entry level microcomputers with the Unix operating system will cost even the careful shopper somewhere between $6000 and $7000. In this price range you will find machines like the PC-AT with the Xenix operating system, the AT&T 6300 Plus with Unix System V, or the AT&T Unix PC, also with Unix System V. These can be multi-user computers, but it is doubtful that they can really accommodate additional users comfortably. IBM's PC-RT is reputed to serve up to eighteen users, but the price tag is even higher.

If you happen already to own the computer, you can, of course, buy Unix separately. When you do, you will quickly learn that Unix has been "unbundled" not just from hardware, but from itself as well. Xenix, for example, is sold as a "run time" package with the Unix kernel and utilities. This will run, of course, but you will be lacking both the C compiler (with its supporting libraries and utilities) and the document formatting programs. The full Xenix development system retails for approximately $1300.

BEYOND THE OBVIOUS

The expense of the mainstream Unix alternatives at the Computer Faire was enough to put me off, so I went to a small electronics booth at the back of the hall, bought a NEC V20 chip for my PC and headed for the exit.

I had just passed the package check area when I was accosted by Unix aficionado James Joyce, who took my arm and steered me back into the exhibit hall asking if I'd seen the most important exhibit on the floor. "Which was that?" I asked. "The Microport Booth," he replied, steering me across the floor to a small booth along one wall. A hand-painted sign promised a $159 version of Unix for the PC-AT. That price buys the "run-time" version of a true Unix System V. The full development version is less than $455.

At the booth the software was running on an AT clone—itself a significant fact, since many of the new, "personal Unix" products are intended specifically for the PC-AT, and there can be some difficulty in moving the operating system to a non-standard configuration. Microport's Unix seemed to run well.

Microport (10096 Soquel Dr., Aptos, CA 95003) is positioning itself boldly with a cheap, generic, and apparently complete Unix for the computers like the PC-AT running the Intel 80286 microprocessor. My friend was obviously enthused with this product, and I was surprised that I didn't find his excitement contagious. The reason, I am sure, has to do with individual views as to why anyone puts Unix on a personal computer in the first place.

WHY PUT UNIX ON A PERSONAL COMPUTER?

So far, the products described have all been "real" Unix for a personal computer of one kind or another, and it has been simply assumed that there is something like a good reason for putting Unix on a PC. Because of the limited multi-user capabilities of personal computers, the most obvious reason for using Unix at all doesn't really apply.

For software developers and people who teach programming technique, the incentives to have

---

Bennett Falk is an Application Specialist for BASIS, Inc., and has been enthralled by UNIX, its uses and users for the last four years.

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Unix on a personal computer are powerful indeed. There is just no substitute for the tools that Unix provides for anyone who must write software and manage large volumes of source code.

Naturally, there are other good reasons for buying Unix for a PC. Many casual Unix users want something "Unix-like" for their PCs because Unix is fun to use. (Don't be misled by critics preoccupied with user-friendliness; Unix really *is* fun to use.) Many more PC owners argue that putting Unix on PCs is a good way to learn about Unix and develop some worthwhile skills.

For these people, the decision to buy Unix for a personal computer is much more ambiguous than it is for software developers. Putting "real" Unix on a personal computer requires dedicating scarce hardware resources to the new operating system. The five or more megabytes of disk space that a full Unix system would require are only the beginning. After that, remember that Unix really manages the hardware it runs on and is unlikely to give DOS-based applications the access they expect to have to the system's resources. (Unix will not make your DOS applications run better.)

Of course, it's self-defeating to forfeit access to applications just to get a more congenial operating environment. The learning experience that many of us are after may not seem worth the perpetual inconvenience of re-booting the system to switch back and forth between Unix and DOS.

Fortunately there are any number of "Unix look-alike" products to help both the curious and those looking for a "Unix-like" personal computer environment. Among the Unix look-alike are all sorts of products. At the high end are operating systems like Coherent (from Mark Williams) and uNETix from Lantech (1551 Glenville Dr., Richardson, TX 75085, [214] 644-1246). These provide good copies of most of the features of Unix itself: they offer multi-tasking (in some cases multi-user) operation, control of input and output through "pipes" and "redirects," inter-process communication, user ID's, and the Unix conventions for handling peripherals. They differ from Unix primarily in their internal coding, a difference which should not be evident to users in most circumstances.

Software development provides a good test of how Unix-like these systems are: ideally code written under a Unix look-alike should be "portable" to a true Unix system with at most minimal changes. Prices for the complete systems will not be much different from the Microport price; expect to pay somewhere in the neighborhood of $500 for a full development system.

Lantech's uNETix offers an excellent value. The system is modularized in such a way that a run-time system could be purchased for as little as $100. The product itself is true enough to Unix that it's an invaluable educational tool. The drawbacks to uNETix are pretty much the drawbacks of Unix systems on personal computers: DOS and its aapplications aren't really available without a cumbersome re-booting procedure. (Lantech does offer a PC-DOS 1.1 emulator, but this will do little good for those of us with DOS 2.1 or later.)

The Unix look-alikes were represented at the Computer Faire by Wendin's PCUNIX, a product which represents a reasonable solution for the "I want something like Unix on my PC" crowd. PCUNIX provides a multi-tasking, multi-user kernel and clones of many Unix abilities. Its user interface reproduces the Unix command line structure well, and it's affordable.

The real bonus of PCUNIX is also its chief drawback: it fits on a normal DOS disk partition and promises to allow users to run DOS applications. This is great. The cost of providing this service is that PCUNIX is not much at all like true Unix in its handling of devices. Most users, interested in learning the command interface or reaping some of the benefits of multi-tasking, won't be affected by the difference. (Wendin, 624 W. 5th St., Cheney, WA 99004.)

A FINAL WORD OF WARNING AND ENCOURAGEMENT

With products ranging in price from $50 to $7000, the market for personal computer Unix products is a complicated one. Two guidelines seem worthwhile.

First of all, know what you want. (Don't be fooled: knowing what you want is no easy matter in this market.) It's worth studying not only the product literature but also some of the many books about Unix that have appeared in the last few years.

Once you've figured out what you want, shop around among the products that satisfy your needs. Two things are important here: price and customer support. Don't underestimate the value of good support: Unix products can be complicated and frustrating things to install, and it's helpful to have access to someone knowledgeable when you're just starting out.

There are lots of ways to get Unix or something like it on a personal computer. Have fun shopping around, and if you happen to find Unix on a CD ROM somewhere, please let me know.... ☐

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CP/M

Reading Your Files

By Robert D. Athey Jr.

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When you have many diskettes, you may have trouble keeping track of the files on each one. The directory will list the names of each file but not their contents. You may be lucky enough to remember what you put in the files you created yourself, but what about the ones you didn't create, or the ones you just don't remember?

Your techniques for reading these files will vary according to whether you want to see their contents on your screen or see a printed (hard) copy. A screen read will just be a reminder of what's in the file. You may want a hard copy for editing purposes or to file away.

READING ONSCREEN

You have a wide variety of options for each sort of reading. Let's look at ways to see the file on the screen first. The way you choose to read the file may be influenced by what sort of file it is; choosing the correct method will keep you from getting a screen filled with garbage, and maybe even avoid that beep that some computers throw at you when you make errors.

You can avoid some of that by choosing not to try to read ***.COM**, ***.OBJ** or ***.ASM** files, as they are generally machine language, and may be unintelligible collections of control characters, Greek letters and strange graphics characters. The spreadsheet files will look a little strange, too. They'll be a list of what can be translated into locations within the file, along with whatever number or label is in that location. Since you normally put a title at the top of a spreadsheet, you'll be able to recognize what it is, even though it's not the form you remember constructing.

You won't be able to read some files, as you are essentially "locked out" of them. One such example is the collection of files with a Q in the middle letter of the extent (like ***.DQC**); these files have been squeezed and require special handling. You will not be able to read ***.LBR** files without special handling, either, and you'll be locked out of *Perfect Writer**.FIN files, too, unless they were "printed to a FILE," not formatted for a particular printer. I delete my ***.FIN** files at the end of a session because they are larger than the manuscript files, and I don't need two different forms of the same file taking up my precious disk space.

You will be able to read some ***.BAS** files, though some won't let you read them unless you are in the BASIC compiler, and some of those won't let you print even from there. You'll be able to read all ***.DOC**, ***.NOT**, ***.TXT**, or other files you've named, however you name files. My own technique is to label addresses for envelopes as ***.ENV**, letter, ***.LTR**, reviews as ***.REV**, invoices as ***.INV** and manuscripts as ***.MSS**. That way, I know I can read those files without any special programs.

Let's go to reading the files. First of all, you can try your word processor as a way to read the file. It may work without any problem, but you may see some strange characters between letters, and odd upward arrows next to capital letters. This may mean the file is a *WordStar* (or related) file that you're trying to read with another word processor program. The file is still readable (albeit with difficulty), but printing it may give some strange results. Using the word processor may not be a desirable technique, though, for a variety of reasons (you may not have room on the disk for the automatic backup file generated, or you may want to avoid accidental changes in the file). So use options that give a "read only" capability.

We mentioned one of the "read only" options last month, with the CP/M built in **TYPE.COM** program you never see listed on the disk directory. It's there (so long as you SYSGENed the disk), so use it. Simply type **TYPE FILENAME.EXT** in at the **A>** prompt, and the lines on the screen will start filling with the file. You can read the next screenful by just hitting the space bar, and go on through until you've read all of it, or you can terminate in mid-read with a **<CONTROL>C** to get back to the **A>** prompt. Another way to read a file without the possibility of harming it is to use the "V" option from the *NEWSWEEP* menu, as discussed in an earlier column.

Special techniques are required to look at a squeezed file or a library file. The squeezed file is one that's been put through a program to make it smaller without losing any characters. I will squeeze a manuscript file when it becomes archival (after it's been published). A file can be squeezed with *NEWSWEEP* or any other special file squeezing program, and it can be unsqueezed, if necessary, for editing. However, the *NEWSWEEP* program will read the squeezed file as if it had not been squeezed, with the same "V" command you can use to read any text file. Again, you can page through the file with the space bar, or terminate with a **<CONTROL>X**. Using *NEWSWEEP* to read a file can fool you into thinking it is a text file on occasion, but the machine will remind you if you try to do something you shouldn't (like inserting a word).

The library file (one with an extent of ***.LBR**) is a special file of several files combined in one by a program called NULU (essentially, an acronym for New Library Utility), which some people use for disk housekeeping. Therefore you have to use NULU to peek into the library, or to pull one or all of the files from the library. I pull out the ***.DOC** file first from any library, and read it with the *NEWSWEEP* "V" command to see if I even want the library, let alone the program(s) or ***.DOC** file.

There are other ways to read files, even squeezed or library files, directly. Look into your user group documentation files for the special reading programs they may have. Other approaches, such as the DU-V89 (or other attached number after the V), are more for the specialist. The DU programs are complex Disk Utility programs which read the disk, showing exactly what's in each sector so you can see it on your screen, with the locations of each character. Don't even try DU unless you have a backup copy of the disk, you've read and understood the documentation, and you're prepared to lose the contents of the disk through an inadvertent keystroke. DU is an extremely powerful tool for changing a bit to eliminate a "Bad data file" statement, but it's like using an elephant gun to hunt flies if you just want to read the file.

PRINTING FILES

Now we've read the screen for the files, and have decided we want to print out some of them. The easiest method is to type in **<CONTROL>P** (which doesn't show anything to the screen) and then use the CP/M **TYPE FILENAME.EXT** again. This time, the screen will show the lines and they'll come out on the printer. The printer must be on, or the machine will go catatonic on you. Don't forget to turn off the print command with another **<CONTROL>P** after you're finished.

In other cases (when you want to print several files), you may want to use the "P" option of *NEWSWEEP.* You'll get no margins or pagination, but that's OK if you just want to mark the document up with corrections, or cut it up to be filed in several files.

A basic public domain utility program called *PRINT.COM* will just print a file, with pagination and margins and indentations. It has options that allow you to define headings for each page for just this printing, number each line, or skip to a certain page before starting to print, among other things. I used it to do the edit number on this column by simply typing in **PRINT B:CPMCOLUM.MAY /E** (the letter after the slash calls for it to print exactly what the file has in it, with no added page numbers, carriage returns, etc.). The PRINT program was in drive A, and the column was in Drive B. The program starts off by telling you to put the paper in the printer at the top of the form, and then press any key to make it roll on out. I like to credit the authors of public domain goodies, but the author didn't sign the documentation on this one.

There are other reasons for printing out files. You might want to keep a program documentation file. I keep a looseleaf notebook with documentation on all the public domain programs I have from user groups—even those programs I don't use. I read the looseleaf every once in a while to see if a particular problem might have been solved by that program I never use. Most of the problems I hear about are encountered by relatively new users, and the answers lie in *NEWSWEEP, VDO, SD-##* or something else I use all the time, so the reference documents come in quite handy. ☐

Bob Athey has over 20 years of experience working on computers and runs his own company on chemical consulting and contract research. He can be reached through MicroTimes or at (415) 526-3541.

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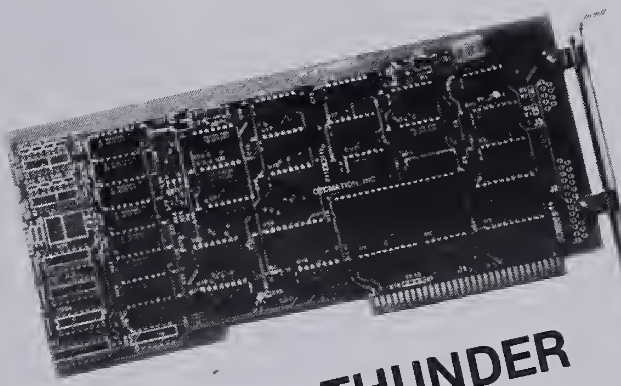

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Validating Data

By Warren Sirota

The Data Management field is covered by a broad spectrum of products, from easy-to-use but limited products like *pfs.File* to confusing but powerful behemoths like *dBASE III Plus*. It's striking, however, how sparse the middle ground is. Of course it's arguably true that each new release of *pfs.File* gets more powerful, and each new release of *dBASE* gets easier to use, but neither of these products adequately addresses an issue which could well define the middle ground: data validation.

Data validation is simply a means of keeping bad data from getting into your system. The simplest forms of validation are implicit in most products—things like not letting you type letters into a field that's supposed to consist of numbers, or automatically converting letters into capitals as they're typed in.

What would happen without data validation? To take an example, suppose you were maintaining a mailing list which contained the names "Lamb" and "LYONS." When asked to print names in alphabetical order, most database systems would print "LYONS" before "Lamb," because in the ASCII system uppercase letters precede lowercase letters (so the "Y" in "LYONS" comes before the "a" in "Lamb").

Many database systems also provide you with range-checking for numerical and date fields. In other words, it's fairly easy to assure that date values like "3/32/86" will be rejected, or that numerical values for a salary field should always lie between 12,000 and 80,000. This can be useful, but it doesn't address all the issues.

THE INSIDIOUS MISSPELLING PROBLEM

Suppose that you've somehow been conned into organizing the mailing list for your local computer users' group. In a users' group, you have contact with all sorts of people: members, volunteers, press, manufacturers, and dealers among them. Also, many of these individuals have particular interests which are worth tracking (for the purpose of forming Special Interest Groups, if nothing else). These interests might include database software, communications, one-person businesses, etc.

So, you go ahead and define your database structure, set up a custom data-entry form if you'd like to, and convince some volunteers to enter some data for you. The system works fine, it seems to run itself, the volunteers aren't complaining much, and eventually you have a few hundred contacts in the database.

When the time comes to mail news of a special club offer to all the members, you try to print labels for all people in the database who have the word "MEMBER" entered in the field called TYPE. In *dBASE*, this would be done with the command:

LISTING 1

```
*Editing and validation of the current record
*by Warren Sirota
*
*This program allows the user to edit the
*current record in the database, and then
*checks that interest and type are valid. It
*will not accept the data until both fields are
*good. This should be called (or incorporated
*into) another routine which is responsible
*for positioning the database to the proper
*record; i.e., ask the user what name he's
*looking for, check to see that it's in there, etc.
*
*Note that the double-ampersands ("&&") are
*a new dBASE III Plus convention to indicate
*comments on the same line as code
*
done=.f.          && Setup for loop
do while .not. done
*Edit the record. "change next 1" is used
*instead of "edit" because, this way, the user
*can't use PgDn to edit the next record and
*bypass the validation
change next 1
if .not. bof()        &&Have to step back
   skip-1             &&to the record that was
                      &&just edited.
endif
**************************************************
******
*Check to see that the type and interest are
*valid
*
*First, we assume that nothing is OK. In
*programming, you're guilty until proven
*innocent
typeOK=.f.
intOK=.f.

if type='MEMBER' .or. type=
   'VOLUNTEER' .or. type='PRESS'; .or.
   type='MANUFACTURER' .or. type=
   'DEALER'
      typeOK=.t.
endif


if interest='DATABASE' .or. interest=
   'COMMUNICATIONS' .or.; interest=
   'ONE-PERSON BUSINESS'
      intOK=.t.
endif


if .not. typeOK
      ans=' '
      @ 18,5
      ?'The type that you entered is invalid.'
endif

if .not. intOK
@ 19,5


      ?'The interest that you entered is
   invalid.'
endif

*The whole screen is OK only if both type
*and interest are OK
ok=typeOK .and. intOK
if .not. ok
      wait
else
      done=.t.
endif
**************************************************
*******
enddo          &&main loop
```

Warren Sirota is a database consultant with experience in a wide range of languages. He also composes and programs computer music. He lives in Oakland and can be reached at (415) 482-3979.

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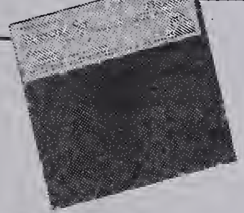

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```
LABEL FORM MAILLIST FOR
  TYPE="MEMBER"
```

The labels are printed out and sent out. A week later, you get calls from a half dozen members wondering why their friends got notices but they didn't. When you look in the database for these individuals, you can see that they're in the database. Closer examination reveals that one of them has been entered with type "MRMBER," one with "MENABOO," and four or five with "MBR" or just "M."

The biggest problem with this type of error is that it can easily go undetected. A few spelling mistakes, which result in a few labels going unprinted, will rarely be detected. Admittedly, in our example the consequences were minor. However, if you had to handle half a dozen more-or-less irate phone calls, you might feel differently about that.

> **The simple mailing list, ostensibly the easiest task in the world for a database manager, can quickly evolve into a major task once you require consistency of data entry.**

SOLUTIONS

The "low-tech" solution to the misspelling problem is to just print out a list of what's been entered into the database and to check it by eye. This can be made easier by printing the suspect information in sorted order. Anomalies will then be fairly obvious to the eye. For instance, in *dBASE*, this command sequence would be helpful for spotting invalid INTEREST entries:

```
INDEX ON INTEREST TO INTEREST
LIST LN, INTEREST TO PRINT
```

These commands, by the way, could also be entered using the *dBASE* Assistant, so that you wouldn't have to be certain of the exact syntax.

Another way of spotting errors after the fact would be to use a programming statement to print out all last names where interest did *not* have a permitted value.

Still, it's better to catch trouble before it starts. If it were possible to specify a range of permissible value for TYPE and INTEREST in the database definition for CONTACTS, and to have the database management software treat those conditions just as it now treats the difference between numerical values and alphabetic, then a great increase in utility would be realized without much of an increase in complication. Of course, if you ever wanted to change the list, there could be some problems. It's easy to add a new permitted type to the ones that are already there, but not as simple to remove a type from the allowable list. What do you do with the data that have already been entered, in that case?

At any rate, since most database systems don't provide this type of extended validation, I'll propose a couple of methods of dealing with it using *dBASE*. These methods are applicable to other programmable database systems as well, but the exact form of the commands would, of course, be different.

The easiest method is to "hard-code" the validation. This means that you write a data-entry routine which gets all the values from the user and checks that things are OK. Listing 1 contains an example of such a routine.

The only problem with the hard-coding method is that, in order to change the validation, someone has to put their miner's helmet on and go in and change the actual code. The changes that are required are minor, however—just extending the conditions for type or interest—and are within the capabilities of many users. Two precautions should be used when doing this. The first is to make a backup copy of the program code file before changing it, and the second is to *only add permitted values, and never to change or delete existing permitted values.* These operations generally require the intervention of a programmer or a sophisticated user.

Also, it should be noted that, in order to conform with changes to the validation code, changes also need to be made to the screen prompting so that all the allowable values are listed. In *dBASE*, this can be done with the MODIFY SCREEN command. Other languages will have other means of doing this.

FULL-SCALE VALIDATION

The problems are much more extensive when trying to set up a menu-driven system which allows on-the-fly changing of the validation conditions by the user. In our example, two additional databases would have to be set up, one for allowable TYPES and one for allowable INTERESTS. Each of these databases would need three routines written for it (Add, Change, and Delete). The Change and Delete routines would each have to look through the CONTACTS database to see whether the changes would cause any existing CONTACTS to have invalid entries under the new rules, and they would have to take appropriate action (like not allowing the changes) if such entries were discovered. Also a static display of the available TYPE and INTERESTS would no longer suffice. Instead, routines would have to be written which would list all available choices. These routines would have to take screen formatting carefully into account, because there would be no way of knowing in advance exactly how many TYPES and INTERESTS would have to fit on a screen. In fact, you would have to write your own multi-page listing and choice facility.

Another tricky validation issue is duplicate checking. When you have a large mailing list, say several thousand people, the odds are good that you will have several individuals with identical first and last names. It's very important that, before allowing anyone to change any data, you display some kind of unique information about these people. Social Security number is best, but you may not have that available. Addresses can work in many situations. The program then should insist on some sort of confirmation ("Is this the right John Smith?). If confirmation is not forthcoming, the program needs to find all other John Smiths in the database (and also all J. Smiths, etc.) and ask for a confirmation. If the database is very large, the program may need to accept further qualifying data to limit this process (the initial prompt could be "Enter Last Name, First Name, and State," for instance). Only upon finding that none of the John Smiths in the database is the right one should the program allow the creation of a record for yet another John Smith.

> **Data validation is simply a means of keeping bad data from getting into your system. The simplest forms of validation are implicit in most products—things like not letting you type letters into a field that's supposed to consist of numbers, or automatically converting letters to capitals as they're typed in.**

So you see, the simple mailing list, ostensibly the easiest task in the world for a database manager, can quickly evolve into a major task once you require consistency of data entry. It's a shame that most of our data management tools aren't better designed to address this all-too-common problem. ☐

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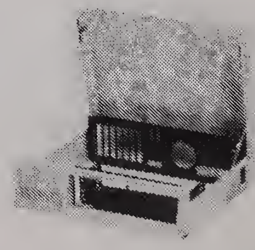

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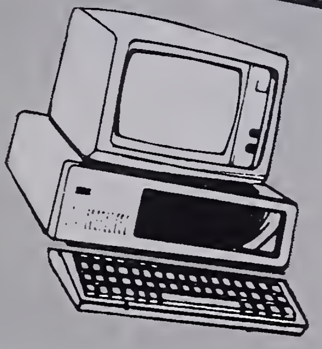

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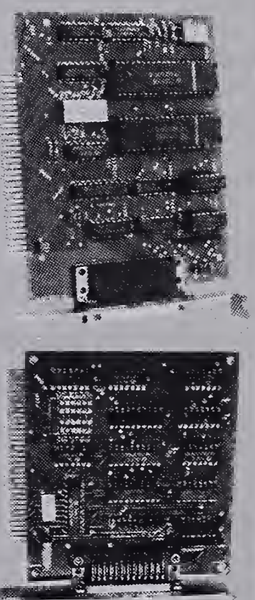

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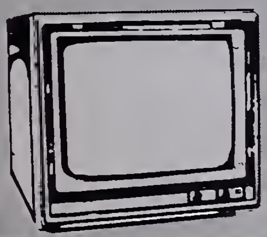

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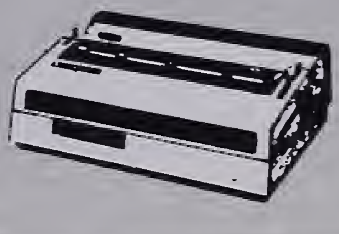

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TELECOMMUNICATIONS

Return Of The Son Of BBS

By Brock N. Meeks

I find that I'm running into a predicament. I no longer have an excuse for ducking my letter writing. Besides the traditional postal service (affectionately known in online circles as the "U.S. Snail") and voice telephone calls, I have several other ways of keeping in touch with my small circle of friends (and nervous editors).

First, I'm on no less than four commercial information utilities. Add to this MCI Mail, three regional networks (all capable of forwarding messages to each other), and what amounts to a score of bulletin boards scattered from San Diego to Long Island. Top this off with a direct line into the world's research networks, such as the ARPAnet and Usenet, and, well, I simply can't hide from anyone that owns a modem. Now that MCI and CompuServe can send electronic mail to each other (and more of these commercial online systems are gearing up to provide similar "gateways") I can't even duck online correspondence by virtue of not logging on to a particular system.

Managing to keep up with all these different systems is an art—and the subject of a future column. For this month let me introduce you to some bulletin boards and online services that you might want to check out.

HELP FOR PERFORMING ARTISTS

The Electronic Call Board in Brooklyn, (718) 499-1633, operates 24 hours a day at 300 or 1200 baud. For aspiring thespians, here's a way to take a stroll on Broadway without risking it all in the Big Apple. The Electronic Call Board is online to serve the performing arts community, individual artists, and performing arts organizations.

The board is free of charge, and you're encouraged to call in even if you're not currently involved in acting. One unique feature of the board is an entertainment and theater listing for major U.S. cities from San Francisco to Buffalo. Callers can post and read casting notices in this section.

There are sections for uploading want ads (such as an available apartment in NYC—a rare commodity), electronic mail, an online magazine for the performing arts, and general computer support and advice.

Too timid to step on stage, even for amateur night? Well, the Call Board offers a way to perform for an online audience. The board's electronic role playing allows you to add to a "play in progress" and live out the adventures of your favorite character; you can create your own character, or just write a scene and add some props (I opted for the latter). As a message in this section says, "This effort calls for everyone's input, from writers to designers. And you don't need an agent to land a part here."

There are also sections covering theater, film, video, dance, art, and music. You can even peruse some inside industry stats compiled by the performing arts magazine *Atmospheres*. There is an open invitation to other performing arts groups to tap the knowledge of The Call Board and find out how to get involved in the online world. If you don't have a modem contact: *Atmospheres*, 1207 Eighth Avenue, Brooklyn, NY 11215.

TAPPING WASHINGTON'S NEWS NETWORK

ITT Dialcom, Inc., has a service called FEDNEWS. This online service will be of interest to journalists, small publications without a correspondent in the Washington press corps, and activist groups that have made the transformation from Underwood manual typewriters to microcomputers and modems. The first entry into the FEDNEWS network was the White House News Service. This provides up-to-the-minute press information about what's happening in Washington. Often the text of the President's speeches is online, as well as the "party line" on critical issues, such as the Libyan confrontation.

FEDNEWS has been expanded to include news from a variety of federal agencies. And it's all there for the taking. This service can put you in touch with some of the best news sources in Washington. (Small caveat: most of this stuff is what these agencies *want* you to read, so filter accordingly.)

Tapping this news source, you can expect to find news releases, speech texts, appointment announcements, interview transcripts and more. Besides the White House, NASA, the FDA, USDA, Department of Labor, Federal Emergency Management Agency, and the Department of Interior are online.

This service is a bit pricey, at 60 cents a minute for any baud rate, any hour. Even at that price, however, it would cost only a dollar or so to read a typical three-page Presidential statement. I consider the price a bargain. I don't have a pair of ears in Washington, and this service has given me several hot stories—before they hit the AP or UPI newswires.

For more information call 800-435-7342.

PLAN YOUR TRIP TO NEW MEXICO

The Santa Fe Message Board, (505) 988-5867, operates at 300/1200 baud 24 hours a day in New Mexico. The city of Santa Fe has become a haven for writers, poets, artists, and craftsmen. It's kind of Greenwich Village, Southwest. When you take all this diverse culture and place it on a bulletin board, you have one of the more interesting online enterprises.

If you're traveling to Santa Fe, you can dial into this board and check the latest information from the Santa Fe tourist bureau. You can correspond directly with them, and questions will be answered personally by a member of the bureau's staff. Your questions need not be limited to Santa Fe. The bureau will also answer questions about Northern New Mexico (which has some of the nation's most beautiful scenery).

Another section of the board offers information about current showings in the city's art galleries and similar establishments. If you've read a good book lately, you can upload your own book review, or just peruse other user contributed reviews.

And lest you think that the artistic set is uninvolved with world affairs, there is a section that includes some poignant essays about Libya, U.S. involvement in Nicaragua, and the state of the environment. Some heady stuff here.

The only drawback is that the board lacks a hard disk—which means messages have a short life before they are "scrolled off" the message base. (A message base usually holds only a certain number of messages, say, 150. When message 151 is entered, message number 1 is released into the ether.)

LAW ENFORCEMENT: PREVIEW OF COMING ATTRACTIONS

Have you ever wondered if this medium is being used for things beyond general chit-chat, special interest groups, and technical forums? What about those defenders of peace, our police forces?

Next month we'll take a look at how telecomm is being integrated into the daily routine of several police departments. Lest you think our police forces are late jumping into the bitstream, let me assure you—they are not.

Next month we'll see just how well these police departments are using the technology. If you ever had any doubt about the status of George Orwell as prophet, next month you'll wonder no more. ☐

Brock Meeks is a San Diego-based freelance writer. Feel free to send him mail—he has no excuse for not responding.

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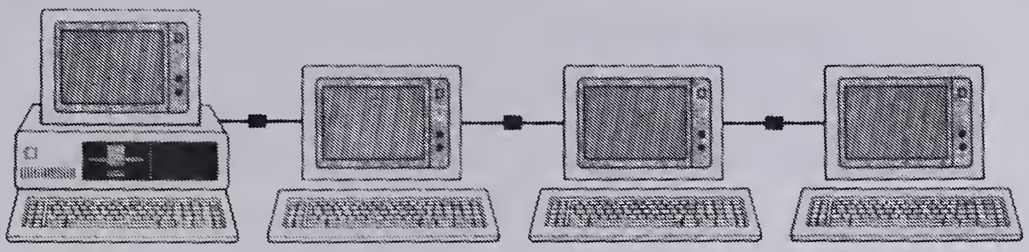

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APPLE II FAMILY

Public Domain Software

Facts On File Inc. (212/683-2244) has made available thoroughly debugged public domain software for Apple II users. The collection includes twenty ready-to-use-and-copy disks that contain 250 programs for beginning to advanced users that cover a broad spectrum of applications from business and personal finance to speed reading, word processing and home management. All programs are menu-driven and accompanied by separate user's guides. The price for all of the programs is $195.

B-Sider

FirstClass Peripherals (1-800/538-1307) has released the B-Sider, a tape backup system that works with the company's Winchester hard disk subsystems, the Sider and Sider II. The B-Sider is a "plug and play" unit that backs up either the 10 MB Sider or 20 MB Sider II, it features a 20 MB streaming cassette tape and "daisy-chains" to the Sider/Sider II. The *Siderware* software has been enhanced and now features a single program that contains five utilities. One allows image backup and restore for an entire Sider/Sider II, an entire operating system, or a particular volume. An image backup of the 10 MB Sider takes less than ten minutes.

New Stickybear Programs

Optimum Resource, Inc. (203/542-5553) has introduced two new math programs for Apple II users. Both were designed for the home and school environment. *Stickybear Math 2* is an extremely versatile program that allows children ages 7 – 10 to develop multiplication and division skills. *Math Word Problems* is designed to help children ages 7 – 11 understand and solve word problems.

Commworks

PBI Software, Inc. (415/349-8765) has introduced *CommWorks*, a telecommunications package that follows the familiar *AppleWorks* file folder user interface, which makes menu selections easy to follow and provides the user with a guide as to what part of the application is being used at any given time. Online help is available at most points in the program, which also incorporates four special features: CommWorks Communications Files, an Automatic Log-On facility, CommWorks Macros, and the CommWorks Text Editor. The package will work with any Hayes, Apple, or Novation Apple-Cat modem and was designed to utilize the Hayes 2400 baud modem. The program supports the most common file transmission protocols such as ProDOS/*AppleWorks* and XMODEM/Christensen. The suggested retail price is $95.

MACINTOSH

VersaTerm-PRO

Abelbeck Software (215/779-0522) has released *VersaTerm-PRO*, the first software package that enables Mac users to fully utilize mainframe workstation graphics tools designed for the Tektronix 4105 color graphics/text terminal. *VersaTerm-PRO* provides color output capability when connected to the new Apple ImageWriter II printer, with support also provided for the LaserWriter and ImageWriter printers. Tektronix 4014 graphics, DEC VT100 text and Data General D200 text terminals are also supported. The package provides several file communications features, including the XMODEM and Kermit file transfer protocols. *VersaTerm-PRO* requires a 512K Mac or Mac-XL and carries a suggested list price of $295.

Excel Applications

Heizer Software (415/827-9013) has initiated Excellent Exchange, a new distribution service to expedite exchange of the growing number of Microsoft *Excel* applications. Excellent Exchange provides a marketplace for *Excel* users in search of specific programs, and also serves as a marketing outlet designed exclusively for *Excel* authors. Dozens of superior, yet inexpensive programs in business and scientific fields are already available through the Excellent Exchange and new listings are being added daily.

MacNosy V2

Jasik Designs (415/322-1386) has released *MacNosy V2*, the 128 K ROM and Window Version of the global, interactive disassembler. *MacNosy* enables developers to recover source code of any Mac application file, ROM, or "code" type resources on the System file. *MacNosy* runs on a 512 K (or larger) Mac and Mac/XL system. The price is $85.

Prodigy 4

Levco (619/457-2011) has introduced a high-performance enhancement for the Mac and Mac Plus comuters called The Prodigy 4. This product is an internal upgrade board that clips onto any Macintosh and features the high-end Motorola 68020 microprocessor, the Motorola 68881 floating-point math coprocessor, four megabytes of contiguous RAM and an enhanced, onboard SCSI port. This is the first Mac performance enhancement to feature the new 16 MHz, Motorola 68020 microprocessor. The combination of processing power, a floating point coprocessor and four megabytes of memory give the Prodigy 4 twice the performance of a VAX 11-780 system. The product is fully compatible with Apple's 128K ROMs and with all software that is written according to Apple's Developer guidelines.

Flight Simulator

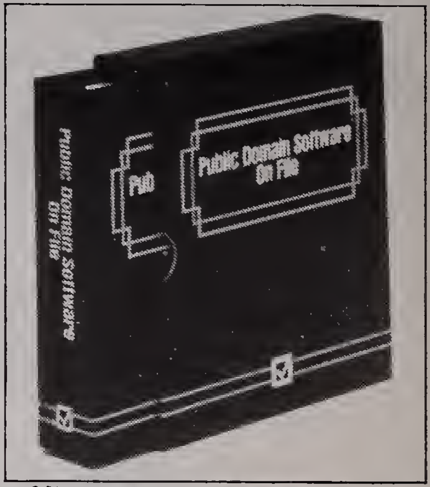
Microsoft Corp. (206/882-8080) has released the Apple Macintosh version of the highly popular Microsoft *Flight Simulator*. The program has been significantly enhanced to take advantage of the graphical characteristics of the Mac to offer a more realistic flying experience. Developed by SubLOGIC, this release offers computer pilots two different aircraft to fly: a Cessna 182 and a Gates Learjet 256. These aircraft can take off and land at 118 detailed airports across the country. A WWI Flying Ace game is also included in the program. The simulation game now begins in the San Francisco/Oakland area, with a scenic view of the Golden Gate Bridge and San Francisco Bay during takeoff. Included is a comprehensive 150 page flight manual with detailed maps of 118 airports. Price is $49.95.

Record Holder 2.1

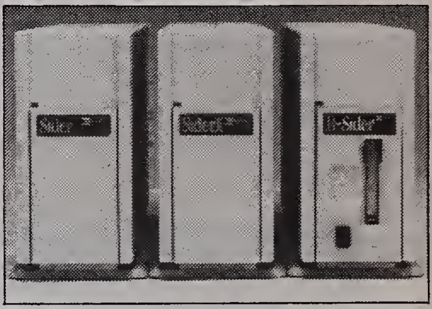
Software Discoveries, Inc. (203/872-1024) is releasing Version 2.1 of their *Record Holder*, data management system. *Record Holder* Version 2.1 adds several new features including support for different font sizes, the option of using the current date in the formula for a computer field, a quick search facility on the Table of Contents window, the use of the NOT operator in searching, and saving Page Setup information with each report format. The introductory pricing of $49.95 remains in effect until September 30th, with Version 2.1 shipping now.

VCO+

Virtual Space Software (San Francisco, CA) now makes it possible to add pictures and sound to online conferencing. With their Visual & Voice Communication System (VCO+), the user can create icons that represent different face emotions, then chat interactively with other users in an online information system. When the user types in a comment, the face icon moves from its chair to the center of the screen in a larger size, with all participants' faces appearing on the computer screen. The words typed appear in a bubble next to the face and, simultaneously, the words are spoken by the built-in Mac speech synthesizer.



Public Domain Software On File offers 250 tested programs to the Apple II user.



The new B-Sider drive offers increased storage capacity and efficiency to Apple II users.

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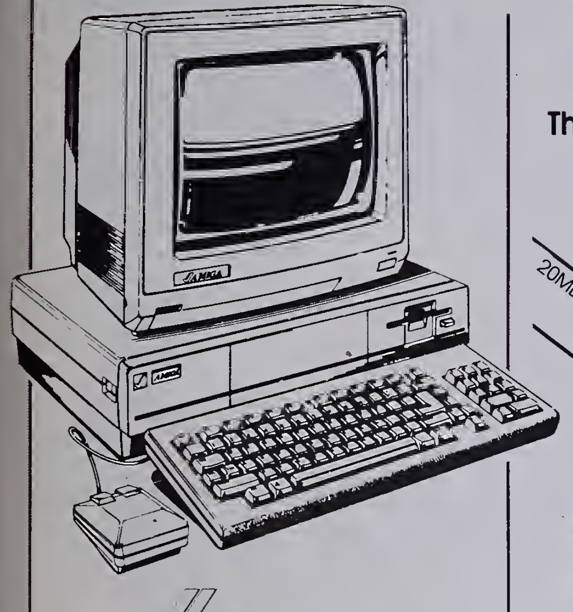

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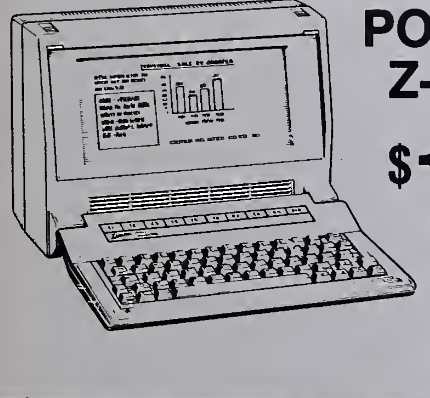

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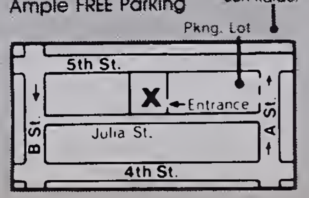


All that is needed to use VCO is a Macintosh, a modem, and a membership to one of the online services that supports VCO. Online conferences are currently available on GEnie (a service of GEISCO). VCO+ has been chosen by Pacific Bell for use in its Project Victoria pilot project.

ATARI

ST HabaDisk

Hasba/Arrays, Inc. (818/994-1899) has introduced an external 10 MB hard disk drive for the Atari ST computer. The HabaDisk is a plug-in disk and stores the equivalent of more than 12 dual-sided 800 K disks and retrieves information in seconds with a transfer rate of five megabits per second. This unit is Atari compatible (including Atari Desktop, GEM, DOS and Mouse), is self-powered, with a high speed three-msec. track-to-track access time. An Atari interface cable is included. Price is $699.95, and the drive is available now.

H&D Base

Mirage Concepts, Inc. (209/227-8369) has debuted the *H & D Base*, a relational database management language for the Atari ST series of computers. *H & D Base* is a dBASE II "work-alike" with almost 300 commands available for the manipulation of data in a virtually limitless number of ways. More than just a data storage and retrieval package, *H & D Base* can be used for the creation of systems for handling inventories, accounts payable and receivable, client lists, and more. The package carries a suggested list price of $99 and is not copy-protected.

COMMODORE

Print Shop Companion, Bank Street Speller

Broderbund Software (415/479-1170) has brought two of its best-selling Apple II products to the Commodore 64/128 environment. *The Print Shop Companion* expands the capabilities of *The Print Shop* by adding a variety of new features and graphic elements. (The Print Shop lets users write, design and print their own signs, letterhead, banners and greeting cards.) The program includes 50 original border designs, 12 new fonts and 20 new graphics, and is priced at $34.95. *Bank Street Speller* works with *Bank Street Writer*, it finds and highlights spelling and typographical errors in documents and suggests correct spellings. The price is $49.95.

IBM & COMPATIBLES

Signalman LIGHTNING

Anchor Automation Inc. (818/997-7758) is now offering a 2400 bps auto-dial, add-in board modem for the entire PC and compatible family. The half-card Signalman LIGHTNING carries a suggested retail price of $499, which includes communications software. The modem operates asynchronously at 2400 bps with an automatic equalizer to ensure clear transmission over all but the worst telephone lines, with fallback to 1200 or 300 bps if the line cannot support 2400 bps operation. The modem is bundles with *LYNC* communication software from Norton-Lambert.

Knowledge Network

Applied Knowledge Groups, Inc. (415/965-1300) have unveiled their Knowledge Network, which is priced at $99 per node. Knowledge Network is a software-based, true multi-tasking local and wide area network for PCs and compatibles that uses ordinary telephone lines connected to standard computer serial ports. The network consists of memory-resident PC-DOS/MS-DOS software and simple modular telephone cables to interconnect the computers' RS232C serial ports. Knowledge Network nodes can communicate at up to 57,600 bps via a bus-structured, baseband network, using Ethernet-style, packet-switched CSMA/CD access protocol. No additional boards or other hardware are required. The software is transparent to the user and allows up to six users to cost-effectively share resources and exchange data without interrupting ongoing work.

GS/300 Gateway Server

Bridge Communications Inc. (415/969-4400) has debuted a low-cost internetwork gateway that connects up to four remote Ethernet (IEEE 802.3) local area networks over point-to-point links, providing internetworking for PC or remote branch-office networks. The company's GS/300 Gateway Server is a higher performance second-generation internetwork router that supports up to four synchronous, full-duplex, point-to-point data links, including leased or dial-up lines, fiber-optic and microwave links, to form a single, large network from physically separate Ethernets. The unit runs the XNS (Xerox Network System) protocols and supports line speeds of up to 19.2 kilobits per second. Pricing is $4,900.

FilePlan

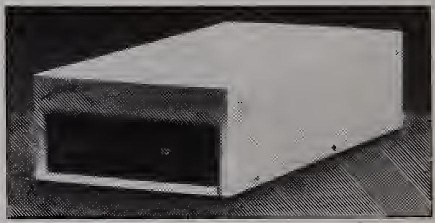
Chang Labs (408/246-8020) has released *FilePlan-The Sales Management Data Base System, Version 4.0.* The program will print letters, envelopes and mailing labels, customize and personalize form letters, and manage follow-up schedules. Simultaneously, the program will track call reports and telephone logs, quota goals and commissions, expense reporting and tickler system, among its many capabilities. The price is $199.95.

ProGraf

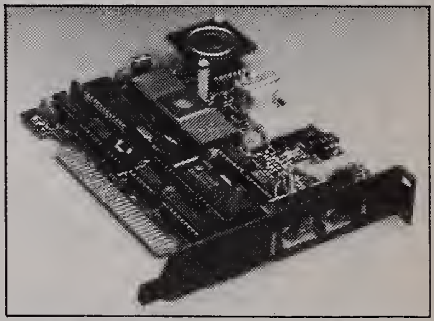
Computer Graphics Group (404/876-9469) has announced *ProGraf*, an easy to use graphics program that combines the utility of business graphics with the flexibility of popular "draw" programs. *ProGraf* offers all of the standard business charts in addition to many specialized charts not usually found in graphics packages, such as ratio, hi-lo, decision, organization, PERT, loading, histograms and variance. Other special charts included single-sided and double-sided charts for accounting displays. *ProGraf* allows users to add free-form graphics and text anywhere on a chart to emphasize an important statistic or trend. Required: at least 192K of memory, a color monitor, color/graphics monitor adaptor card. The list price is $149.

ConoFonts

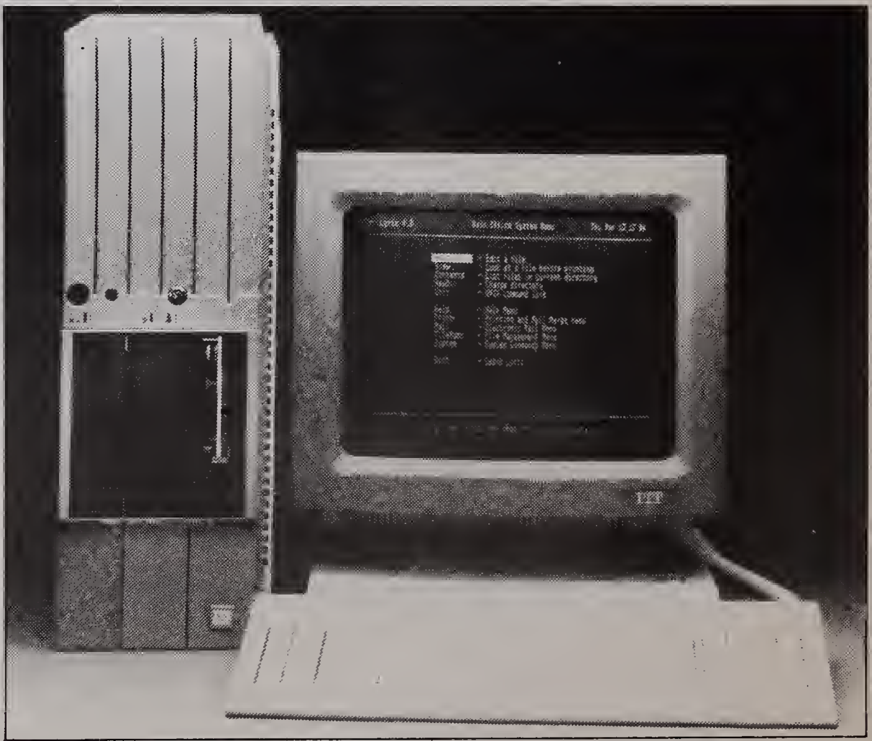
Conographic Corp. (714/474-1188) has introduced a new, downloadable font library featuring popular type, for the Hewlett-Packard LaserJet+



More storage for the Atari ST: HabaDisk 10 megabyte hard disk drive.



The Signalman LIGHTNING is an internal 2400 baud for PCs and compatibles.



ITT XTRA XL

ITT's new high-performance 80286 machine is designed to be used either as a local area network server under ITT/MS-DOS 3.1 or as a shared-processor system under ITT XENIX System V. An 8 MHz, 80186-based communications co-processor board dramatically increases multi-user productivity. For more information contact ITT, (408) 945-8950.

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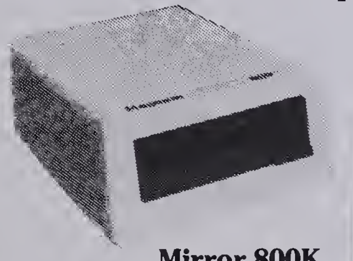

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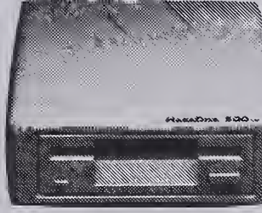

HABA 800K External Drive

Pro Modem

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Paradise Mac-10 Hard Drive
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printer. *ConoFont* is produced under license from major type suppliers such as Compugraphic, the International Typeface Corporation, and Bitstream. *ConoFonts* includes a diverse selection of fonts for manual and book production, display and headline fonts for professional-looking newsletters, brochures, reports, and presentations, and specialty character sets such as math/Greek symbols for engineering and scientific reports.

Menu System 3.0, 4.0

Cottage Industries (816/2208088) have announced two new releases of their *Menu System* for XTs and ATs and their compatibles. Version 3.0 of the *Menu System* is written for single user systems and contains several improvements, including interactive input, which allows users the ability to copy files and execute replaceable parameter DOS commands without exiting the *Menu System*. Also new are menu instruction line control and escape disable. Version 4.0 is being released for MS-DOS based multi-user installations and is available in 4-, 8-, 16-, 32-, 64-, 128-, 512- and 1024-user formats. The *Menu System* simplifies operation of a hard disk computer by offering an unlimited number of nested menus to the end user. Written in C with assembler enhancements, the *Menu System* operates in less than 64K, requires one hard disk, one floppy disk, and DOS 2.0 or greater. The program is not copy protected and sells for $49.95 (single user version). Current *Menu System* owners may upgrade to Version 3.0 for $10.

Printrix

Data Transforms Inc. (303/832-1501) has announced *Printrix* Personal Typesetting Software for desktop publishing. *Printrix* accepts text files created by word processors and adds fonts, page formatting and graphics to produce camera-ready typesetting on dot matrix and laser printers. *Printrix* also shares *Fontrix*'s large library of fonts, now numbering over 150. Over 70 models of dot matrix printers are supported, with new, interlaced, quad-density Epson drivers capable of producing high quality type. The program has a suggested retail price of $120.

Map-Master

Decision Resources (203/222-1974) has released *Map-Master*, a versatile mapping software program. The offering's simple and clear menus enable business people to quickly create custom maps for use in reports, overheads and slide presentations. With *Map-Master*, users can produce shaded maps which display the geographic distribution of any corporate information, including sales and demographic information. Users can view by ZIP, county, state, country, or define their own region. The program contains DataGrabber, a feature that allows users to easily import data stored in spreadsheets and databases. The suggested retail price is $395.

Right Writer 2.0

Decisionware, Inc. (813/952-9211) has debuted a new software package that helps business professionals write more effective correspondence, reports and manuals. This is *RightWriter Version 2.0*, an automatic document proofreader that use artificial intelligence to analyze documents for errors in grammar, usage, punctuation and style. The software works with *WordStar*, *Multimate* and twenty other leading word processors. *RightWriter* is the first expert system for writing and actually helps shorten writing by pointing out wordy phrases, weak sentences, and overused words. The list price for Version 2.0 is $95, with updates priced at $24.95 for registered owners of previous program versions.

Fast-Link

Digital Communications Associates (404/442-4520) has a new release of IRMA's FASTLINK, a modem that allows PC users to send information to other PCs, mainframes and minis at speeds up to 18,000 bits per second (bps), without data compression, over ordinary dial-up phone lines. The high speed of the new modem is due to FASTLINK's unique technology, developed by Telebit Corporation. This technology is based on a patented design that combines a multicarrier modulation scheme, digital signal processing and packet technologies. Data are transmitted asynchronously with complete error detection and correction capabilities. Price is $1,995 for the PC-card version and $2,395 for the stand-alone version. For original FASTLINK users, an upgrade kit is available for $99, with factory upgrades priced at $250.

Market Analyzer PLUS

Dow Jones Software (609/452-2000) has introduced *Market Analyzer PLUS*, an investment software program that provides technical stock market analysis for individual and professional investors. Based on the highly acclaimed *Market Analyzer*, this new program has enhanced stock charting capabilities, point and figure analysis and charting of standard volume indicators. Also, up to four charts may be displayed at one time in a splitscreen format. The user can also generate technical analysis reports.

Network Software

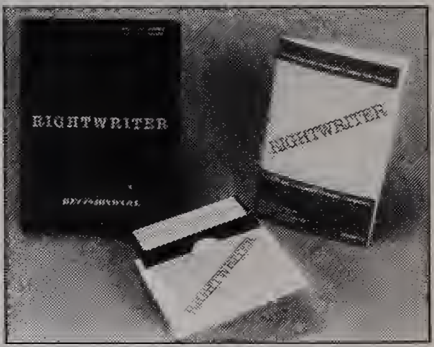
Excelan Inc. (408/434-2226) has introduced two software products that enable a PC on an Ethernet network to communicate concurrently with other networked PCs and dissimilar host computers. Both packages run on the TCP/IP protocol, a standard transport protocol for communications between dissimilar host computers and workstations from differing vendors. The two packages are the *EXOS 8052-01 NETBIOS-TCP/IP* software and the *EXOS 8051-02 TCP/IP* software package. Excelan's *EXOS 8052-01 NETBIOS* software provides full compatibility with IBM's NETBIOS over an Ethernet network. Excelan's *EXOS 8502-02 TCP/IP* software package includes a socket library, a set of routines that allows programmers to write PC-to-host networking applications that use the *TCP/IP* protocol. Both packages operate on DOS and run on Excelan's EXOS 205 Intelligent Ethernet Controller board.

Idea Generator

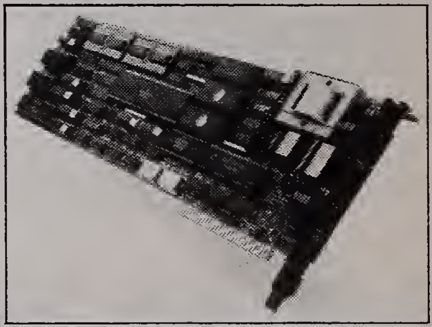
Experience In Software (415/644-0694) has a new program entitled *The Idea Generator* that enhances your own mental powers by helping to generate fresh ideas about almost any kind of problem. This expert-based software is founded on the theories of best-selling author and lecturer Gerard I. Nierenberg. A copy of Nierenberg's book, *The Art Of Creative Thinking*, is included with the package. Little or no computer experience is required. At the end of a session, you have the option of printing the Summary Report to a printer, to a text file, or to a file which can be read by outline processors such as *ThinkTank* or *Ready!* The program requires 256K of memory and has a list price of $195.

FileExpress

Expressware (206/481-3040) is now shipping version 3.7 of *FileExpress*, distributed as Shareware, meaning the program may be freely copied and shared. The most recent version of the disk set, which includes a text file copy of the User's Guide, may be obtained directly from Expressware for $10, or from anyone who has a copy for free. Registration of *FileExpress* is currently $40 and includes the most recent version, new typeset User's Guide, telephone support and notification of all major updates and new products.



The popular RightWriter proofreader and style analyzer is now available in an enhanced version.



Irma's FASTLINK modem allows transfer of data between PCs and mainframes, minis and other PCs, over ordinary phone lines.

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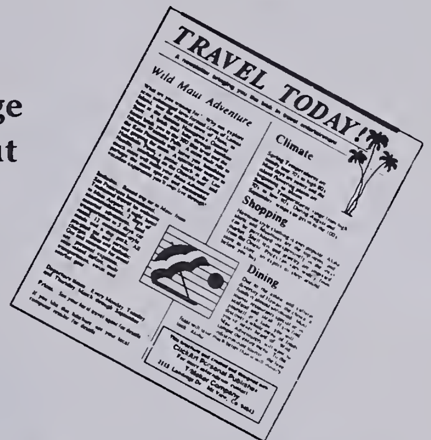

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$$\Psi(P) = i \frac{Ak}{4\pi} \int_\sigma \frac{e^{ik(r+r_0)}}{r r_0} (\mathbf{e}_r - \mathbf{e}_0) \cdot \mathbf{n}\, da$$

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Low-Priced Quick DOS

Gazelle Systems (800/233-0383) has reduced the price of its *QuickDOS* product. The program was originally introduced at $39.95, but is now being offered for $29.95 per copy. Gazelle is also offering prepaid upgrades for life at a one-time additional cost of only $15. QuickDOS enhances DOS functions such as copying, renaming, and erasing, and adds new features including directory-tree diagram, file-move capability, file viewing, finding lost files, and duplicating a directory structure.

New From IBM

IBM's Entry Systems Division (Boca Raton, FL) has had a busy month, introducing several new products and announcing price reductions.

In addition to the PC Convertible discussed elsewhere, IBM introduced two models of the 3½" External Diskette Drive, one model for use with the IBM micro family, and the other model for use with the IBM AT. Both units provide the capability to exchange information between the system with which they are used and the IBM PC Convertible. The company also announced the Internal 3½-inch Diskette Drive Option, which features a half-height, double-sided disk drive for new models of the IBM XT.

IBM also increased the processor speed of its new AT by one third through the additional of a 8 MHz microprocessor. Other added features include a 1.2 MB disk drive, a 30 MB disk drive, a serial/parallel adapter card, and 512K of RAM expandable to 10.5 MB with new memory expansion options. The IBM unit price for the new AT model is $5,295. A new model of the IBM AT/370, offering similar features and functions, has also been announced at an IBM unit price of $8,985.

Three new XT models have also debuted, with 256K or 512K of user memory and one or two half-height 5¼" 360K disk drives. The new XTs are also available with 20 MB of fixed disk drive storage, with as much as 640K of user memory installable without using expansion slots. Pricing ranges from $2,145 for an XT with 256K and a single disk drive to $2,895 for an XT with 512K of RAM, a single disk drive and a 20 MB disk drive.

IBM has also released a new version of its Personal Computer Disk Operating System, DOS 3.2, which contains all the functions of previous versions of DOS, as well as enhancements to support both the IBM PC Convertible and the IBM Token Ring Network. DOS 3.2 is the only version of DOS that provides support for the new 3½" micro disk drives. The unit price of DOS 3.2 is $95.

The new *TopView Version 1.0* program provides a swapping option that expands the number of applications a user may load into memory. When a program in memory is not in use, it is moved to the disk (or virtual disk), freeing the memory for use by another program. The swapping function occurs automatically and is transparent when a user starts a new application or switches between applications. A newly released version of the *TopView Programmer's Tool Kit* provides utilities and system-related information to create applications that use *TopView's* multi-tasking, windowing, and data-transfer features. Pricing is $175 and $429, respectively.

IBM price changes are as follows: The IBM PC with 256K of RAM and a single 360K disk drive was reduced from $1,995 to $1,845; the configuration with two 360K disk drives was reduced from $2,295 to $1,995. The XT with 256K of RAM and a single 360K disk drive was reduced from $2,270 to $2,145, while the XT with two 360K disk drives is now $2,295 down from $2,570. The XT with 256K RAM, a single 360K disk drive, and a 10MB fixed disk drive was lowered from $3,895 to $2,895. The AT with 512K of RAM, a 1.2MB disk drive and a 20MB fixed disk drive was reduced from $5,795 to $4,895, while a similarly configured AT with a 30MB fixed disk drive was reduced from $5,995 to $5,295. Hardware option reductions include the 30MB Fixed Disk Drive Option reduced from $1,995 to $1,795, 20MB Fixed Disk Drive Option from $1,595 to $1,095, and the 10MB Fixed Disk Drive Option, from $1,195 to $695.

Kamerman AT-Plus-1800

Kamerman Labs has debuted the AT-Plus-1800 computer and will include four top selling programs from Borland International in the unit's selling price of $1,999. The AT compatible system, which features a 1.2MB floppy drive and a 20MB fixed disk, will include *Turbo Lightning, Reflex/ The Analyst, Turbo Pascal* and *SuperKey* at no extra charge. The Kamerman Labs AT-Plus-1800 comes with a 16-bit 80286 system unit, 1MB 8 MHz motherboard. 20MB fixed disk and card, 1.2MB floppy drive and card, 192 watt power supply and AT style keyboard.

Logistix

Lattice (312/858-7950) has debuted an all-new integrated software package that combines time management, database, spreadsheet and graphics functions into one worksheet. Entitled Logistix, this program gives users the ability to store, analyze, manipulate and present time elements as well as numerical or statistical information. The Logistix worksheet measures 2048 rows by 1024 columns and features intelligent memory management to allow maximum dimensions to be reached. The database will store 2047 records by 64 fields. The program requires 512K RAM and is offered for $450.

PC Stickybear Series

Optimum Resource, Inc. (203/ 542-5553) has announced the conversion of two of its best-selling software programs, *Stickybear Numbers* and *Stickybear Reading*, to run on the IBM family of computers. *Stickybear Numbers* is a colorful counting and number recognition program for ages three to six. *Stickybear Reading* is a user-friendly program that introduces language elements, builds vocabulary and reinforces reading comprehension skills.

cc:MAIL for LANs

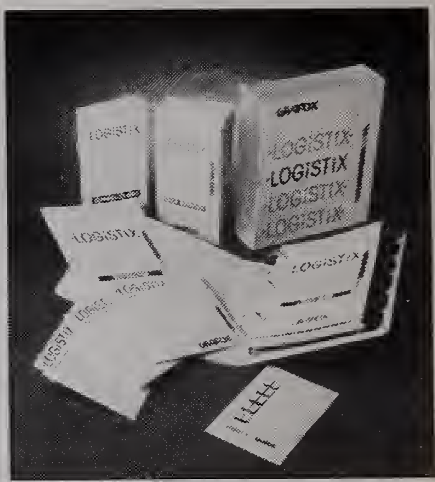
PCC/Systems (415/321-0430) has revealed their cc:*MAIL for LANs*. Users of LANs that support the IBM PC and compatibles can send, receive, store and edit electronic-message "envelopes." Anything created on a PC can be sent in an envelope, including text, graphics, data files, and display screens from other software application programs. Messages can be sent from PC to PC on the LAN, to remote PCs, or to other remote LANs, regardless of manufacturer. The ten-user starter package costs $995 and expansion kits are available to accommodate thousands of users.

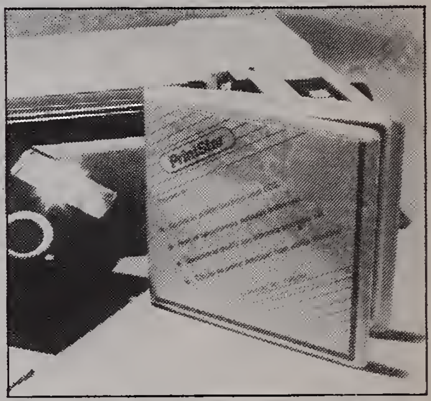
PrintStar

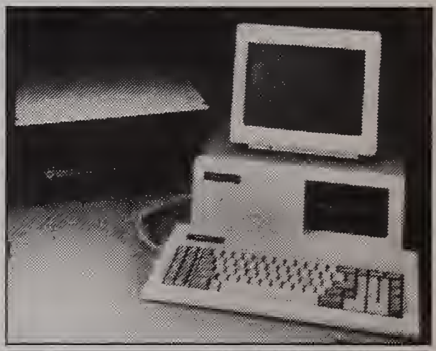
This series of programs allows the PC/XT compatible user to unleash the full potential of dot matrix printers. The package supports ten vertical printing modes, allows *WordStar* users to control printer functions from within *WordStar* files, and lets the user create, edit, save and download Alternate Character Sets. *PrintStar* is currently available for all Epson printers, the IBM parallel printer, and Okidata 92/93 printers; other versions are being developed. For information contact Media Development Associates, 927A Lincoln Ave., San Rafael, CA 94901, (800) 468-3322 in CA, (800) 824-3735 elsewhere.

Z-LAN

Zenith Electronics Corp. (312/391-8181) has introduced their new Z-LAN system, designed to allow computer devices to communicate via coaxial cable at 500 KBPS, with a very


Logistix is an all-new package that combines time management, database, spreadsheet and graphics functions into one worksheet.


PrintStar lets the IBM compatible owner use the full potential of dot matrix printers.



nith's new Z-LAN is a cost-effective approach to connecting many terminals, printers, modems, micros, minis and mainframes over a large geographic area.

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low-bit error rate. Unlike other LAN systems, Z-LAN can accommodate four separate 500 KBPS networks on a single 6 MHz channel, while allowing other data, video and voice services to co-exist on the same cable. This broadband network is a cost-effective approach to connecting many terminals, printers, modems, micros, minis and mainframes over a large geographic area. Suggested retail prices are: $795 for the dual-port NCU, $1,995 for the Frequency Translator ($1,495 for a second Frequency Translator), and $9,900 for the four-channel Network Bridge. Sample shipments will begin this June.

SmartNotes

Personics Corp. (800/445-3311) has announced a memory-resident software package that allows users of PCs to attach notes to database records, spreadsheet cells, letters, memos and reports. Called *SmartNotes*, this program is described by the company as "the electronic equivalent of Post-it self-stick notes." Users of *SmartNotes* can view the computer screen with notes showing or can "hide" notes to reveal the text or numbers that the notes are "stuck over." The suggested list price is $79.95.

New Pick OS

Pick Systems (714/261-7425) has released an enhanced Pick operating system for the IBM XT that increases the basic run time by 22 percent and supplies nine additional functions, compared to the three-user system shipped in 1985. Release 2.0 includes the ability to extract formatted data directly from PICK/BASIC via the "EXECUTE" command and support of streaming cartridge tape backup. The new release provides a data transfer bridge between files created under the Pick and MS-DOS operating systems. An applications generator has also been added, which provides a step-by-step procedure for creating applications programs. Suggested retail price for Release 2.0 is $495, with updates for current Release 1.3 users available.

Enhanced PC-Write

Quicksoft (206/282-0452) has announced *PC-Write* version 2.6, whose enhancements include automatic reformatting, an optional menu system, expanded onscreen help, support for proportional spacing printers including the HP LaserJet+, expanded footnote handling, extended directory, and a completely rewritten and reorganized manual. The program also includes mail merge, splits screen editing, keyboard macros, table of contents, indexing, pure ASCII files, and fast text manipulation. Commissions are paid to users who share their disks with others, who in turn purchase registered copies.

Printworks For Lasers 2.0

SoftStyle, Inc. (808/396-6368) has announced version 2.1 of their *Printworks For Lasers Software*, which offers memory-resident "Power Printing" typesetting functions and support for three additional laser printers. This new version adds advanced typesetting-like functions, laser printer support for IBM *DisplayWrite 3* word processing software, and support for LaserJet 500 PLUS, Xerox 4045 Laser CP and NCR 6416 laser printers. The program is fully compatible with other memory-resident software and is not copy protected. The pricing is $125.

Softerm PC

Softronics (303/593-9540) has included the Seamless FileTransfer feature with the latest version of *SOFTERM PC*, requiring but a single step to transfer data between computer systems. This feature has important advantages over current file transfer methods: application programs are not interrupted; detailed knowledge of communications protocols and procedures is not required; and productivity is improved due to significant savings in time and effort. The file transfer process is transparent to application programs because all PC-DOS file I/O calls are intercepted and examined by the RAM-resident *SOFTERM PC* FileAgent. When a remote device is specified, the FileAgent executes a user-defined script of how the remote system is accessed and how files are uploaded and downloaded, including file transfer protocols. *SOFTERM PC*, is not copy protected and carries a $195 suggested list price.

The Chauffeur HT

STB Systems Inc. (Richardson, TX) has combined three popular video display industry standards to provide the most universal video display adapter on the market today. Called The Chauffeur HT, this display consolidates STB's current Chauffeur technology (that displays standard CGA software on PC compatible monochrome monitors without any drivers), as well as Hercules monochrome graphics and Tseng Labs 132 character compatibility. This offering retails for $349.

CashTrack

SubLOGIC Corp. (800/637-4983) has debuted *CashTrack*, a versatile home accounting system that helps you keep track of income, expenses, assets, and liabilities so better money management decisions may be made. *CashTrack* features full-option menu selections and screen instructions. Help messages and hints are provided to facilitate program use. The program requires 128K of RAM. The price is $149.

PCUNIX

Wendin, Inc. (509/235-8088) has officially released *PCUNIX*. Designed and built with Wendin's Operating System Toolbox, *PCUNIX* is the only software product on the market that makes the powerful features of AT&T's Unix available on the IBM PC and true compatibles for under $100. Incorporating Wendin's own version of the popular Bourne shell, *PCUNIX* is a true multitasking, multiuser operating system that offers Unix users a powerful and affordable alternative to licensed versions of AT&T Unix. *PCUNIX* includes complete source code, runs MS-DOS and PC-DOS programs, and is fully compatible with the MS-DOS file system. Price is $99.

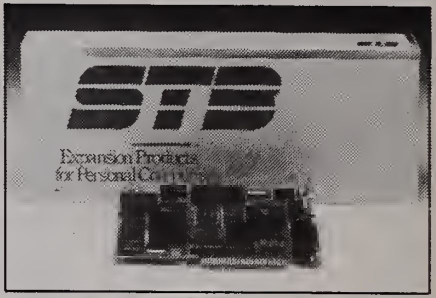
MULTIPLE SYSTEM RELEASES

Conflict In Vietnam

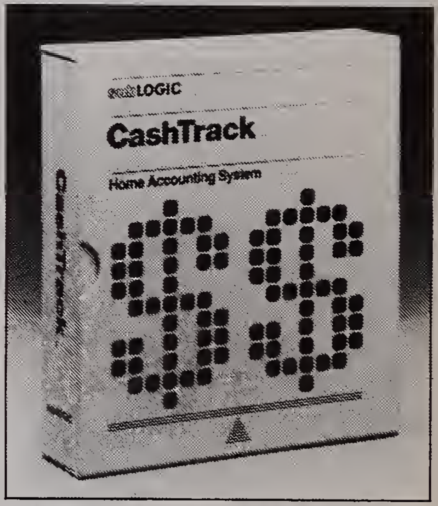
MicroProse Software Inc. (301/667-1151) is now making available a strategic simulation of the crucial battles of the Vietnam war. *Conflict In Vietnam* combines detailed and sophisticated simulation programming with straightforward playability. Simple commands entered via joystick or keyboard direct the constantly moving armies as they fight across a scrolling map. *Conflict In Vietnam* will be available for the Apple II family and IBM PCjr computer early this summer. The suggested retail price for all versions is $39.95.

The Music Studio

Activision, Inc. (415/960-0410) has released an enhanced and broadly expanded version of *The Music Studio*, a music composition tool for home use. Designed by Audio Light, this offering provides both beginners and those who are already adept at music composition with the tools necessary to create compositions from an elementary tune to an elaborate fifteen-channel, three-voice score which can be channeled through an electronic keyboard for maximum audio performance. The program is now available for the IBM PCjr and Tandy 1000 computer systems at a suggested retail price of $49.95, and double-sided Commodore 64/128 and Atari 800 XE/XL versions priced at $34.95. This month should see the release of both Atari 520ST and Amiga versions at a retail price of $59.95.



The Chauffeur HT combines three popular video display industry standards to provide the most universal video display adapter currently available.



CashTrack is a new, versatile home accounting package from Sublogic.

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May 20

Is it Mac? Is it a PC? No—it's MacCharlie! Dayna President Bill Sadler shows the rest of us how to smell like a rose.

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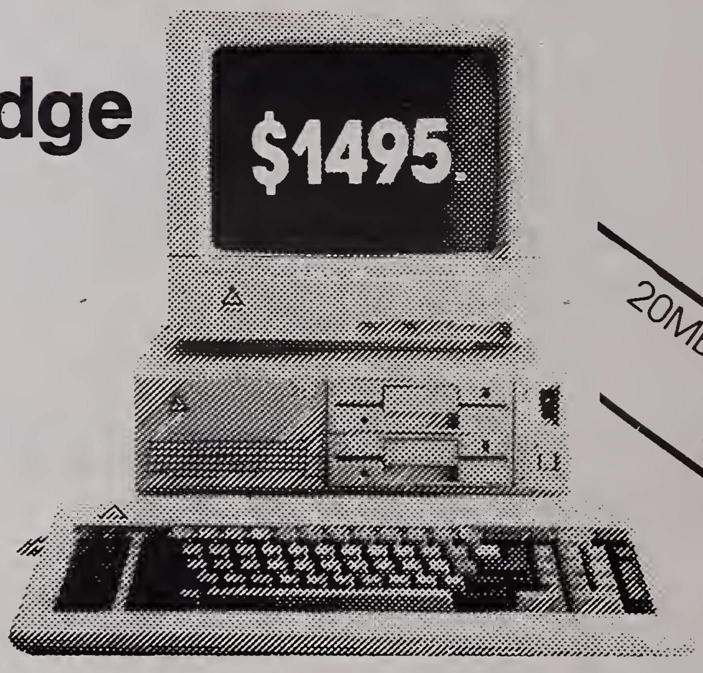

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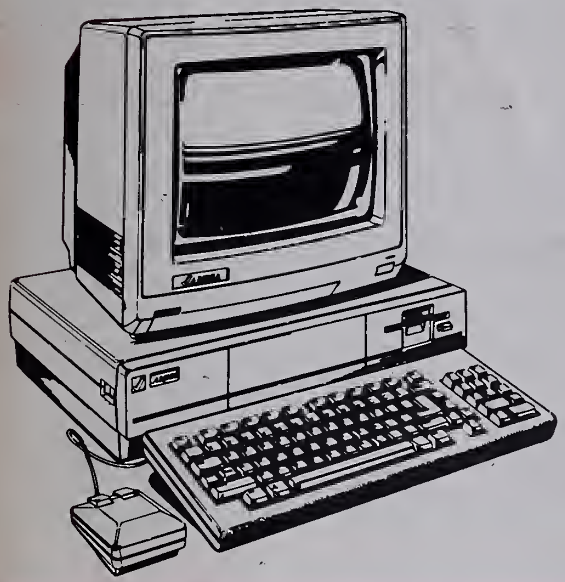

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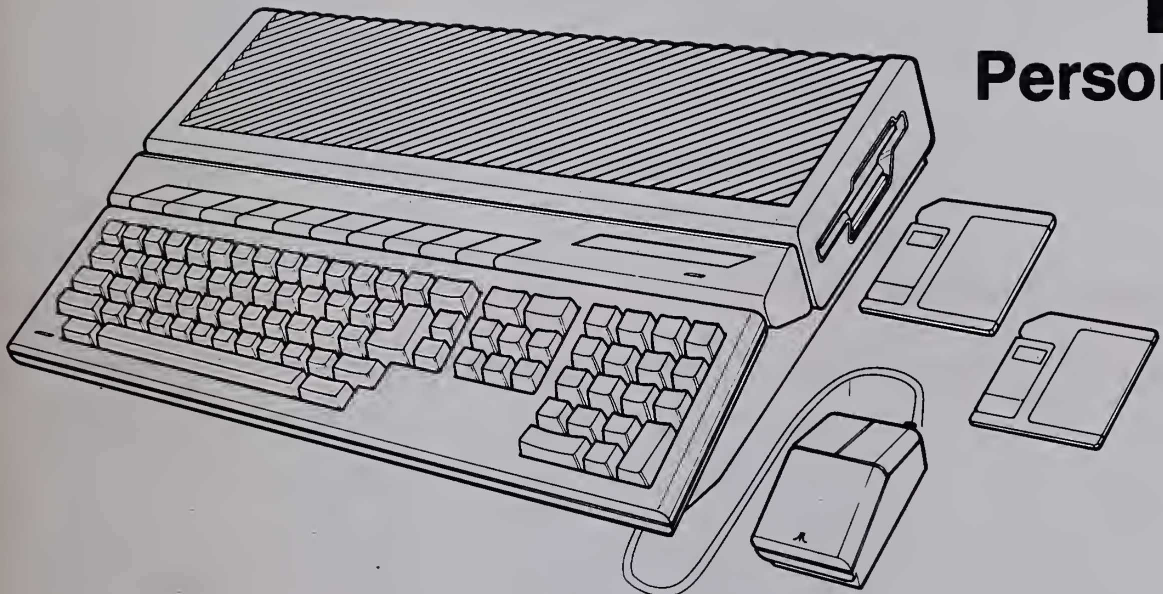

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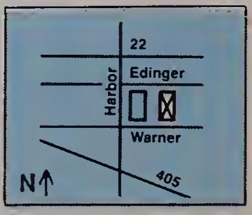

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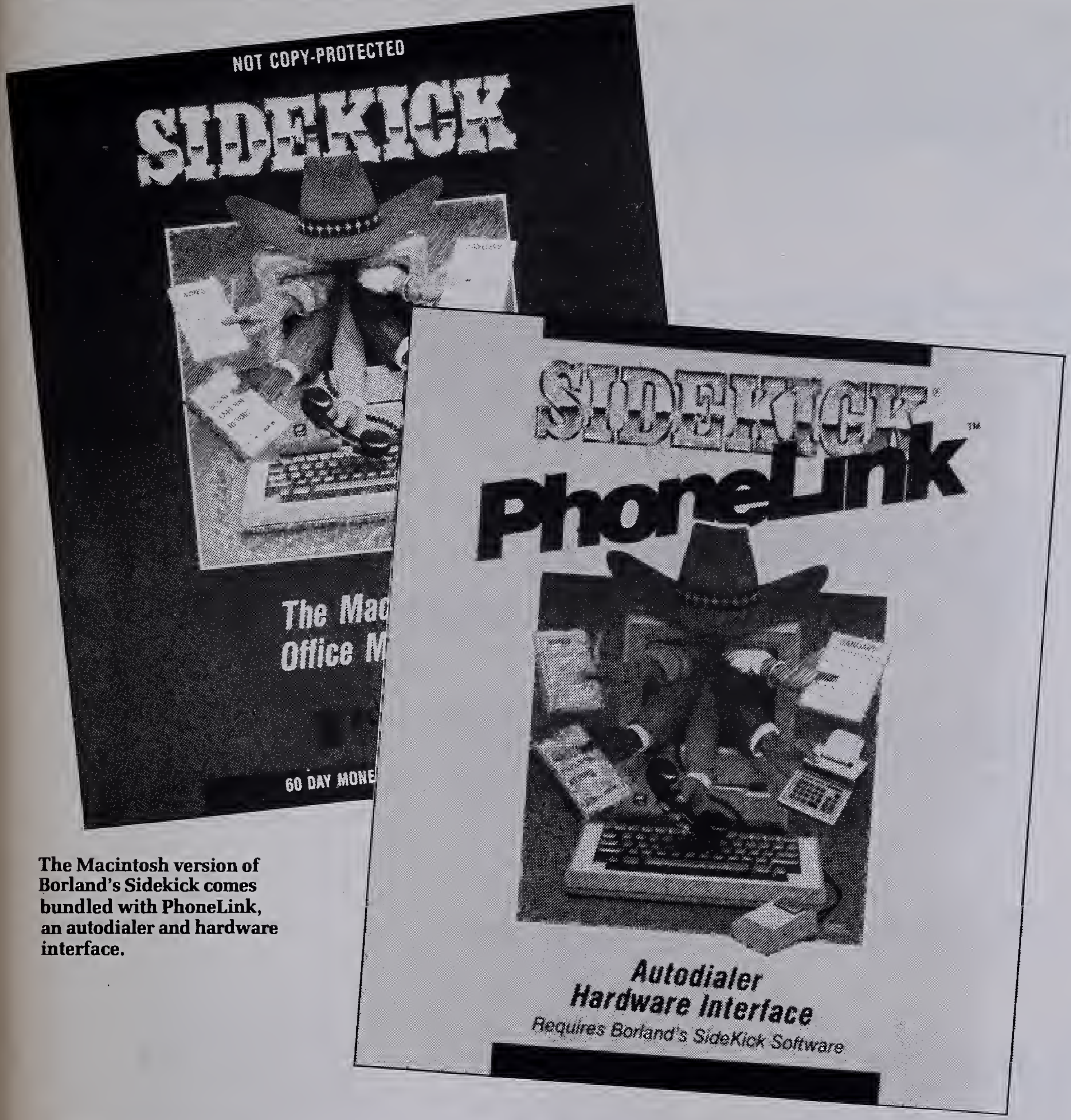

The Macintosh version of Borland's Sidekick comes bundled with PhoneLink, an autodialer and hardware interface.

DESKTOP ACCESSORIES

Sidekick

Macintosh Version

Published by: *Borland International*
Price: *$99.95*
Reviewed by: *Barbara J. Chan*

Borland has just released version 1.1 of *Sidekick* for the Macintosh. At a suggested retail price of $99.95 with a 60-day money-back guarantee, it includes all the useful features of the original *Sidekick* and then some. It also offers PhoneLink, a telephone connection device which links your Macintosh to a touch-tone telephone from the audio port.

The software includes a modem-dialing option available through the pull-down menu and via the MacDialer desk accessory. If you have installed PhoneLink, you can use *Sidekick* to automatically dial any phone number listed in your Phonebook directory. With the MacDialer DA your Macintosh begins logging all your calls as soon as your party answers.

The Goodies menu includes the new option to sort your call log by company name, and a new Set Dialing Method option.

Further enhancements include a Country field and larger State and Zip Code fields in the PhoneBook format. You can convert your old PhoneBooks easily by operating *Sidekick* once. The format itself has been changed to resemble an index card, and should prove easier reading for all users. Another added feature includes the ability to copy a selected PhoneBook entry to the Clipboard and paste it into any Macintosh application.

Users of Finder 5.1 will be pleased to note that *Sidekick* operates fine if you move your data files out of the DataPhiles folder and into either your system folder or the desktop of your installed volume.

As if that weren't enough, Borland has included new ReadiPrinter, Calculator+ and QuikSheet features:

- optional header on each ReadiPrinter page to provide filename, date and page number
- the ability to save formats between calls;
- recognition of non-Apple printers (Epson, ThinkJet);
- the ability to enclose hex characters to be used as control characters
- the ability to set the number of copies to be printed;
- compatibility with the Macintosh Plus;
- the Notepad+, which includes printing with expanded tabulations and word wrapping;
- addition of a %-sign to the Calculator+;
- added dollars and cents column in QuikSheet.

The documentation comes with the original *Sidekick* manual, a brochure describing the new features, and a leaflet for the PhoneLink installation. Its contents are well-organized and adequately illustrated to guide you from installation to use.

(For more information, contact Borland at 4585 Scotts Valley Drive, Scotts Valley, CA 95066, 408-438-8400.)

SPREADSHEETS

Templates Of Doom

Published by: *Solar Systems Software*
For: *IBM PC and compatibles*
Suggested Retail: *$39.95 plus $1.50 postage/handling*
Reviewed by: *Bennett Falk*
Note: Templates Of Doom requires Lotus 1-2-3 *version 1A.*

Lotus 1-2-3 users have an image problem: the stereotype would have you believe that they are grey flannel number crunchers in whom the spark of humanity is seldom glimpsed, and then only on those occasions when someone manages to write a particularly ribald keyboard macro.

Lotus 1-2-3 non-users have problems, too, of course: from the outside *1-2-3* looks like a difficult program to learn. Not only are there built-in commands to be mastered, there are also questions of technique—how to string commands together to get things done efficiently. Add to this the fact that the people who have this knowledge frequently make it appear to be one of the black arts, and you have a very frustrating situation.

Templates Of Doom is a pretty good antidote for all these Lotus woes, though it is not easy to tell you exactly what *Templates Of Doom* is. It's both a game to be played in *1-2-3* and a tutorial from which to learn some things about *1-2-3* commands and technique. It gives hardcore users a chance to have some fun with their favorite piece of software, and it provides some instructive puzzles for those of us who are still trying to figure out what all the *1-2-3* fuss is about.

It is not likely that many people will want to play *Templates Of Doom* for its own sake, but stranger things have happened. What the user sees is fun but not very game-like by PC standards: after all, there is not much that can be done with the procedure of loading *1-2-3* templates. Indeed, the most awkward moments in playing the game come from waiting for each new puzzle to settle down when initialized.

Templates Of Doom includes 16 multiple choice puzzles. A scorecard template steps each player through the puzzles in order and keeps a running tally of the score. Templates are loaded and screens full of text appear. The player makes selections from menus and the program responds by loading another puzzle template or calculating the player's score. (Each of the templates has been assigned a "par" solution time.)

Each puzzle has a solution that can be discovered by using some bit of *1-2-3* lore, and no facet of the program is out of bounds. The puzzles themselves are wonderfully frivolous, particularly the one entitled "Template Of Doom." The riddles to be solved are not really solvable without the clues provided by the spreadsheets.

The puzzles aren't "dynamic": the solutions don't change from one playing of the game to another. This doesn't have to mean that the game stops being fun. The point, after all, is that this is a *1-2-3* exercise, and even after the correct answers are known, there is likely to be considerable debate over the best, fastest, or easiest way to interpret each template.

For each of the puzzles there is also a multi-layered help facility capable of giving the player a brief hint, a large hint, a view of the appropriate *1-2-3* help screens, or a step-by-step enactment of

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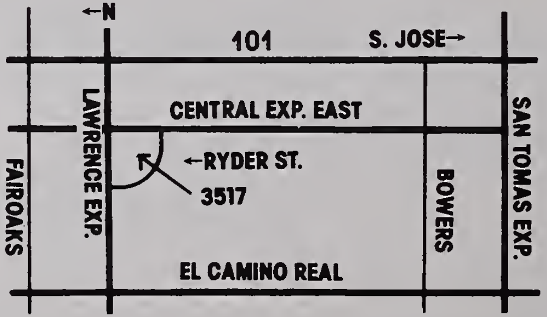

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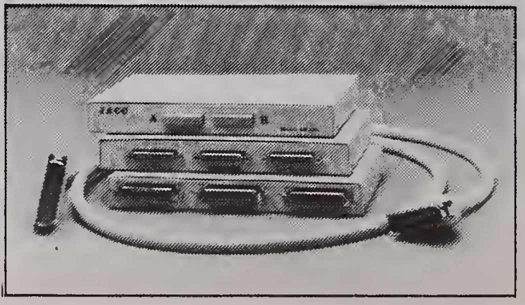

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the template's solution. For the wary who can't be seen having too much fun, there's a normal spreadsheet overlay that can be displayed to hide the *Templates Of Doom* screens at any time.

Overall, the game is a labor-intensive construction: Pete Antoniak put in quite a few hours to earn the money that people will pay for *Templates Of Doom*. The puzzles, scorecards and help facilities are remarkable examples of Lotus programming, and the truly curious can have a look at them to see how the game is constructed. Also included are an open invitation to contribute to future editions of *Templates Of Doom* and a "toolkit" template which provides the resources to enhance the game.

Whether you consider yourself a novice or an expert at *1-2-3*, *Templates Of Doom* is worth your attention. It is easy to use, fun to play and instructive on many levels. Besides, if you miss this one, how will you ever make it through *Romancing The Clone* and *Refuge Of Lamos*? (Solar Systems Software, 8105 Shelter Creek Lane, San Bruno, CA 94066-3829, [415] 952-2375.)

UTILITIES

FANSI-CONSOLE

Version 1.13

Published by: *No Smoking Software*
For: *IBM PC and equivalent with DOS version 2.0 and later*
Price: *$25 ($50 for commercial version with full user manual)*
Reviewed by: Doug Pencille

FANSI-CONSOLE is a unique, RAM resident utility developed to enhance and speed-up many programs' screen writing and keyboard handling. Most programs that fill the screen with information (screen writing) use standard PC(MS)DOS or ROM BIOS (Read Only Memory-Basic In/Out Service) calls to accomplish this instead of direct hardware manipulation. *FANSI-CONSOLE* can triple the screen writing process; it is also a replacement for the ANSI.SYS driver with many distinct advantages.

To appreciate *FANSI-CONSOLE*, it would be helpful to first understand what the ANSI.SYS driver is and how it works. ANSI is an abbreviation for "American National Standards Institute," which comprises the standard escape sequences used in DOS versions 2.0 and later. Peter Norton describes ANSI.SYS as the poor man's *ProKey*, developed to use a set of commands, which, when translated, will perform just about anything the screen is capable of doing. The ANSI driver simply modifies the systems hardware configuration (screen and keyboard) to handle calls to DOS and BIOS. The use of the ANSI driver in program development allows for more versatile and simpler access of screen handling routines. Examples of this are the use of the popular "windowing" programs, where the cursor movement and text scrolling within a window can be accomplished without affecting the rest of the text on the screen.

So why use *FANSI-CONSOLE*? First of all, the name is short for FAST ANSI, handling screen calls up to three times faster than ANSI. The program uses more of the standard escape sequences than the version found on PC(MS)DOS (ANSI.SYS), to allow extended features and thus more useful screen processes.

FANSI-CONSOLE has a much larger type-ahead buffer than the IBM standard. The buffer allows the user to continue typing at the keyboards while the program currently running is performing another task. In a word processor, for example, the status line may prompt the user with a "Please

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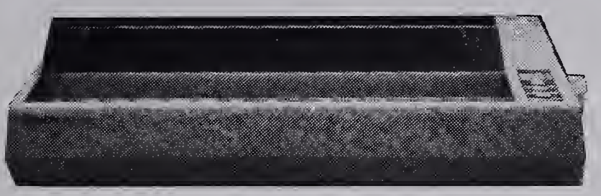

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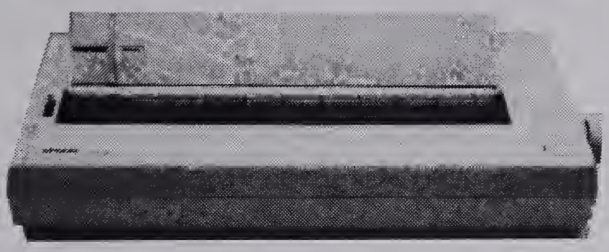

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Wait" message while the text is being saved or backed up to the disk. If you were to type while this message was being displayed, the characters would be stored into a buffer and then written to the screen when the program finished its housekeeping chores. The *FANSI-CONSOLE* buffer is 255 characters as compared to the IBM standard of 15.

The program allows the user to assign keyboard macros to keys. Although the PC(MS)DOS version of ANSI.SYS allows for macros, *FANSI-CONSOLE* allows the user to establish and allocate as much memory as necessary to handle the macro library.

The most visible feature of *FANSI-CONSOLE* is its elimination of screen flicker (blink) caused by certain color graphics adapters such as Tecmar's Graphics Master. Color can be controlled to change the standard white-on-black background for software that does not support color graphics. Even the repeat rate of keys can be changed to increase or decrease the speed at which the cursor keys, for example, move across text.

FANSI-CONSOLE is simple to install. Preset default options allow instant installation with only the basic operations: alternatively, the many features can be inserted in a manner to best serve your hardware and computing needs. The default values are set so that the driver will be most compatible to the standard IBM software format. The best way to highlight some of the advance features and explain the process of creating an "installable device driver" is by example.

Installable device drivers are the user-called options required to drive or operate some type of hardware/software configuration. In the example, the first device is the "enhanced disk system" required to drive the hard disk as the boot drive; it's labeled ENHDISK.SYS. The next device driver is the software to access the battery clock and is called CLOCK.SYS. The next device is the *FANSI-CONSOLE* software call, and the options are explained below. The DOS commands to write the CONFIG.SYS file to the disk are included for clarity.

```
copy con CONFIG.SYS
DEVICE=ENHDISK.SYS
DEVICE=CLOCK.SYS
DEVICE=FCONSOLE.DEV /G=400 /S=10000
  /B=0 /L=1 /O=1
^Z
```

In the example we called for the device "**FCONSOLE.DEV**," which is the program along with some of the optional features of the package. The first "**/G=400**" tells DOS to cut that irritating beep or "BELL" to about a fourth of a second instead of the DOS default of one second. The next enhancement is "**/S=10000**" which is a "screen saving time out." The numeric value selected will cause the screen to turn off approximately 10 minutes after no changes are made to the display screen. This prevents permanently burning in a particular display pattern onto your monitor when leaving it on too long. Since I am using a Compaq with a color monitor, I included "**/B=0**," to keep the screen from blinking as text scrolls. By adding "**/L=1**" I can now freeze a scrolling screen by pressing the Scroll Lock key instead of Ctrl-Num Lock keys together. The Scroll Lock key now toggles the scrolling on and off in a single keystroke. The last option selected, "**/O=1**," invokes the FANSI-HANDYCAP option, where the Ctrl, Alt and Shift keys toggle on and off. This is ideal for one-hand operation of the keystrokes requiring the use of Shifted, Ctrl'ed and Alt'ed patterns. Other customizing can be done on the command line to support other features of *FANSI-CONSOLE*.

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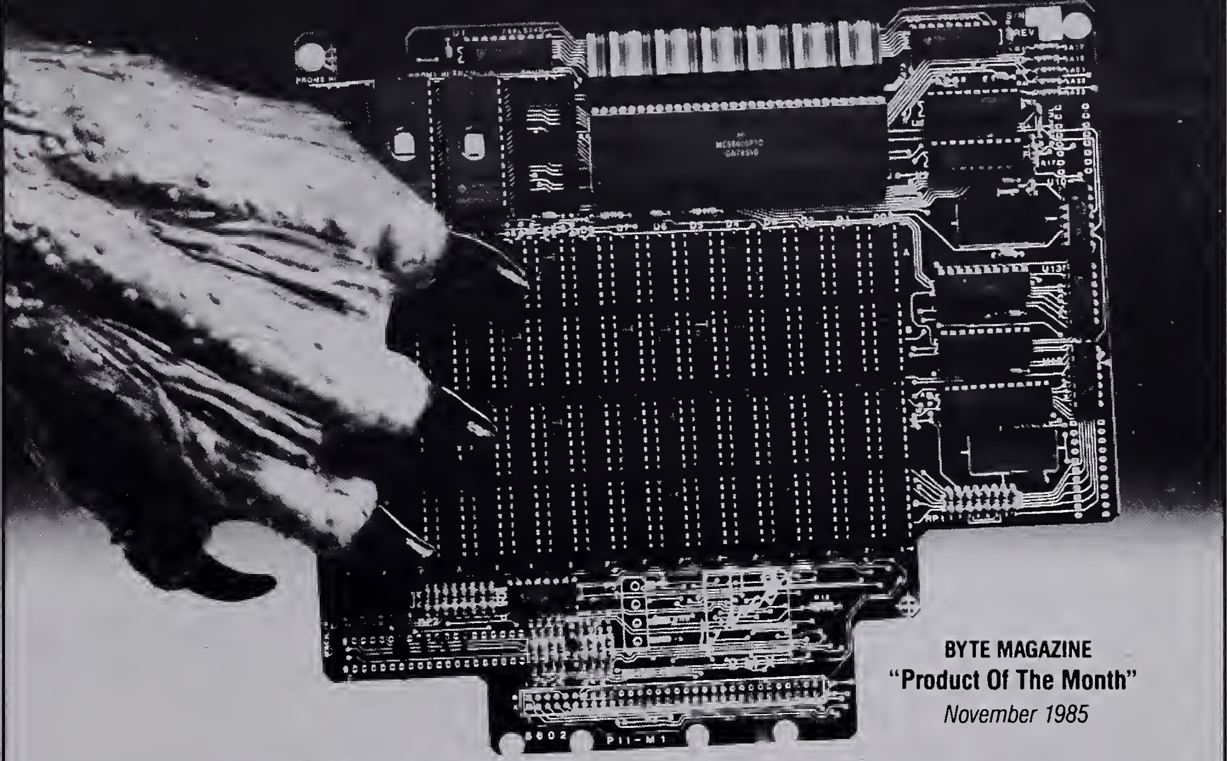

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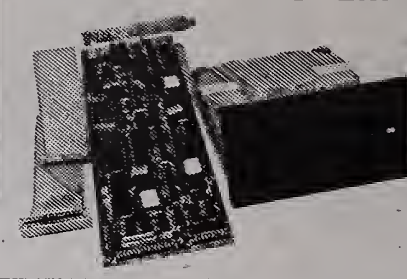

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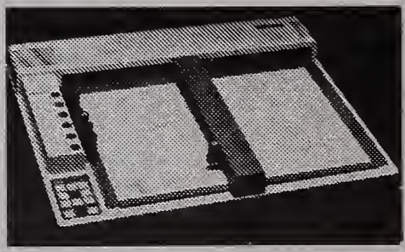

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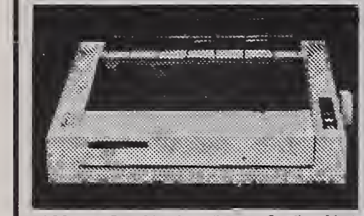

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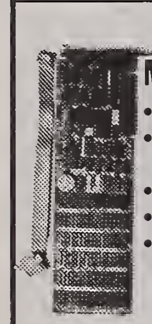

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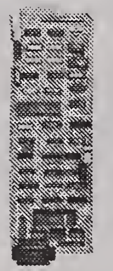

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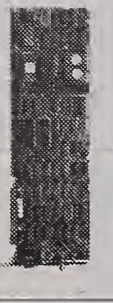

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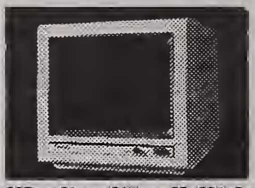

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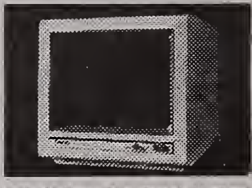

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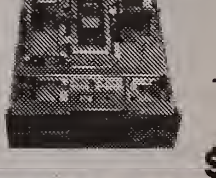

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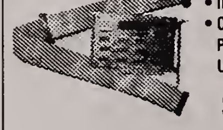

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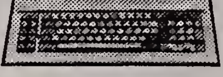

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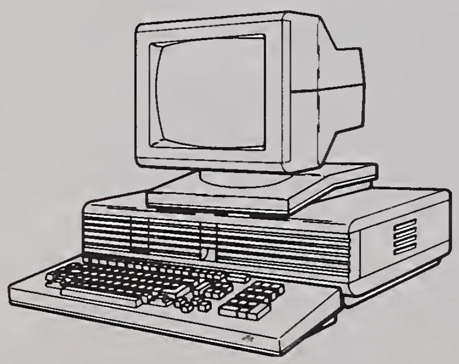

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form on disk; this should be enough to get the user up and running. The full documentation and programming tools are available for an additional $25. There is nothing to study or commands to learn. Simply install the file to the config.sys and forget it.

The program is distributed as "shareware" to encourage further distribution. Shareware does not mean "freeware," as a small royalty and mandatory usage fee of $25 is charged after the 10 day trial period. This concept is catching on with many of the local bulletin board services using it for the "privilege" of downloading software programs.

If you need the use of the ANSI.SYS driver to run any application programs or want to improve the screen handling of the present system and software, the *FANSI-CONSOLE* driver package is worth the investment. (No Smoking Software, Hersey Micro Consulting, Inc., P.O. Box 8276, Ann Arbor, MI 48107, [313] 994-3259.)

PC Tools

Published by: *Central Point Software*
For: *IBM and compatibles*
Price: *$39.95*
Reviewed by: *Conrad D. Cox*

To the new PC user, DOS (a.k.a. the disk operating system for the IBM PC and compatibles) is a set of mysterious commands lurking deep within the computer. Many people hardly know DOS exists. They use the utilities provided in their word processing or spreadsheet program to perform DOS's housekeeping chores. Those who use DOS directly are required to remember the sometimes cryptic DOS commands: "Was that 'diskcopy' or 'copydisk'? Or just 'copy'? Where's that darn manual?"

For those of use who have wondered why there isn't a menu-driven version of DOS, now there's *PC Tools* from Central Point Software, Inc. *PC Tools* is a memory-resident menu-driven utility that automates the most-frequently used DOS commands. In addition, *PC Tools* performs a few tricks that DOS can't do.

PC Tools provides many of the same features found in DOS: you can copy files or entire disks; files can be renamed, compared and erased. The difference bewteen *PC Tools* and DOS is that in *PC Tools* the DOS commands are selected from a menu instead of by entering commands at the DOS prompt.

PC Tools also offers several utilities not found in DOS. *PC Tools* allows the user to "undelete" files that have been accidentally erased. A feature called "locate" helps find files that have gotten lost in the various directories of a hard or floppy disk. A disk sector editor allows you to repair or modify disks or files. Directories may be sorted by name, file size, or by date. The sorted directory can then be made a permanent part of the disk.

PC Tools performs its DOS magic as either a stand-alone or a memory resident program. When *PC Tools* is resident in memory, you can perform any of its functions without leaving your word processor or spreadsheet.

I use my IBM primarily for word processing and telecommunications, sticking pretty much to the programs. Using *PC Tools* allows me to do DOS chores without continually referring to the DOS manual, and while using my main applications.

Admittedly, some of the program's features, like alphabetizing files, sound a bit frivolous. However, after living with *PC Tools* in memory for a few months, I find myself using its features more and more. And the ability to recover deleted files has saved me more than once.

The features in *PC Tools* seem to be aimed at the PC newcomer. All functions are useful to a new user except the sector editor. The new user wouldn't know what to do with it. Although the manual thoroughly explains how to operate it, you really have to know something about how ASCII and hexadecimal characters are stored on disk before this option will do you any good. Most "application oriented" users may never use it. But it's ready and waiting whenever the user needs it.

Installation of *PC Tools* couldn't be easier. The manual accompanying the program explains all the available variations of installation, including installing the program onto a hard disk and writing a batch file to cause *PC Tools* to load itself into memory when the machine is turned on. Even the newest PC users will have no trouble installing the program.

PC Tools will operate in memory-resident mode with other memory-resident utilities, such as *Sidekick*. You will need to experiment with the order in which the programs are loaded. In the case of *Sidekick*, *PC Tools* should be loaded first, followed by *Sidekick*.

PC Tools performs all of its DOS-emulating functions as expected. In some cases the functions are "illustrated" graphically on the screen while being performed. In the case of copying a disk, a "copy status display" shows when each track of the original disk is read, as well as when each track of the target disk is formatted and written. Admittedly, most people really don't need this type of display. On the other hand, it's more interesting to watch than standard DOS!

I should point out that *PC Tools* will copy disks and files that are not copy-protected. It is not a utility that can be used to back-up copy-protected disks, nor is it intended to be.

If you know the difference between a target disk and a source disk, you can almost use *PC Tools* without the manual. It's really that simple. All the program's options are listed on the opening menu. You use the up and down arrow keys to select the operation you want to perform. The program always displays all the prompts required to operate the selected operation, so no "reference card" is needed.

Copying multiple files is a simple matter of selecting the file names from a directory-like display and typing "G" for go. You have the option of verifying each file before execution or performing the operation non-stop. Wild card selection is possible. Deleting files uses the same method of file selection. *PC Tools* makes it difficult to delete files in error, prompting you every step of the way.

The program has no option allowing the user to operate the program at "command level." You must always use the menus. Of course, if that isn't to your liking you can always stop the program and try to issue DOS commands without *PC Tools*. With that thought in mind, I prefer the menus anytime!

PC Tools has not crashed at any time during its operation over a period of several months.

The 68-page user's manual serves mostly as a point of reference, as the program can almost be run without it. A short tutorial has the user make a back-up copy of *PC Tools* using the program itself. The manual has no index; however, the table of contents can be used to quickly locate information about any area of the program.

PC Tools can be run on the IBM PC, XT, AT, and most compatibles with at least 192K of memory and DOS 2.0 or higher. It can also be run on the IBM PCjr equipped with 256K of memory. To operate *PC Tools* resident more RAM is necessary. *PC Tools* requires at least one disk drive and supports two or more drives, including hard disk drives.

PC Tools operated perfectly on my 512K XT with all my programs requiring 256K of memory.

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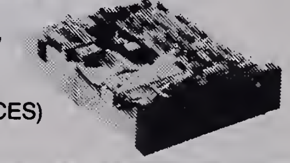

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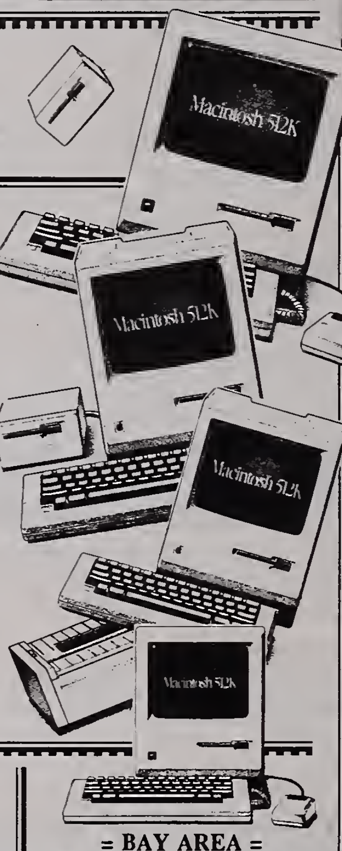

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• *Expandability....* The MonsterMac has an expansion connector that allows additional hardware to be plugged in, such as the new Levco SCSI hard drive controller card, to provide extra capabilities such as more memory, a fast hard drive (internal or external), or anything else that third-party designers can develop. A fast internal hard drive designed by Levco, the 20 Meg OverDrive, will be available mid February 1986. CJS' new protected ramdisk, RAMSAFE™, allows recovery from a bomb or system reset, and will be available in March.

• *Reliability....* Over 1800 units are now in use, longer than any other two megabyte upgrade. 120 day warranty, with extended warranty plans available. Cooled by the quietest fan available, the MacBreeze piezo-electric. Featured as 'Best Product' in Byte magazine, Nov. 1985, recommended as best upgrade above 512K in MacWorld, February, 1986. Coming soon: the MonsterMac '2MX' clip-on model.

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UTILITIES

With *Multimate Advantage*, requiring 320K of memory, I was unable to print with *PC Tools* in memory. *Multimate*, aside from being a large program, uses memory as a print spooler. I suspect the problem can be remedied by increasing my memory.

PC Tools' user manual says that Central Point Software, Inc., "makes no warranties ... with respect to software described in this manual..." However, if you mail in the registration card accompanying the program, support is available via a non-toll-free number in Oregon. Because of the program's ease of use, I feel that this is acceptable support for this product.

So do I recommend *PC Tools*? A resounding *yes*! Its DOS emulating features help the new or application-oriented PC user perform DOS's housekeeping chores. More experienced DOS users will appreciate the disk sector editor and ease of performing multiple file operations. There is something in *PC Tools* for everyone. (Central Point Software, 9700 SW Capitol Highway, Suite 100, Portland, OR 97219, [503] 244-5782.)

OTHER REVIEWS

DiSector

Published by: *Starpoint Software*
For: *Commodore 64*
Price: *$39.95*
Reviewed by: *Matthew Leeds*

There are many ways to justify copy protecting software, and at least as many ways of justifying software that copies copy protected software. Let's try to avoid that issue at least in part by saying that this version of *DiSector* is not copy protected, and hope that it is part of a growing trend for all software.

Politics aside, *DiSector V3.0* will make working copies of many protected programs, and if you need such a thing, it may be a good value for you. However, that's by no means the only reason to consider buying a copy. *DiSector* is and always has been much more than just a disk backup utility for protected software.

For those of you who are not familiar with *DiSector*, I'll cover some of its other features. It has one of the best file copiers I've ever used. In fact it's the one I use the most. The one in V3.0 is changed both in visual layout and utility from V2.0. It will now copy files longer than 64K: it copies at high speed, and will transfer files across different types of drives—1541, MSD, SFD1001, IEEE, and hard disk drives.

V3.0 has an unprotected disk backup utility that works in less than one minute, and verifies at the same time. There is also an eight second format command. All of the copiers, disk and file support one or two drives.

DiSector also contains some very powerful disk editors. The Disk Sector editor lets you read sectors, modify them in Hex or ASCII, and write them back to the disk. You can also view the Block Allocation Map and send DOS commands inside the editor.

The Format editor can be used as an aid in copying some protected disks, but has many other uses. It can repair a damaged disk sector or track, often saving an otherwise lost data file. It can also be used to "write protect" a disk, eliminating the possibility of an accidental loss of vital information. It can also be used to check to see if a disk is protected with "hard" errors that cause the disk drive's read head to bang (I believe that such software should be returned, and the manufacturer boycotted until they convert to "soft" protection).

If you do any programming in machine language, the monitor in *DiSector* is a must-have. It

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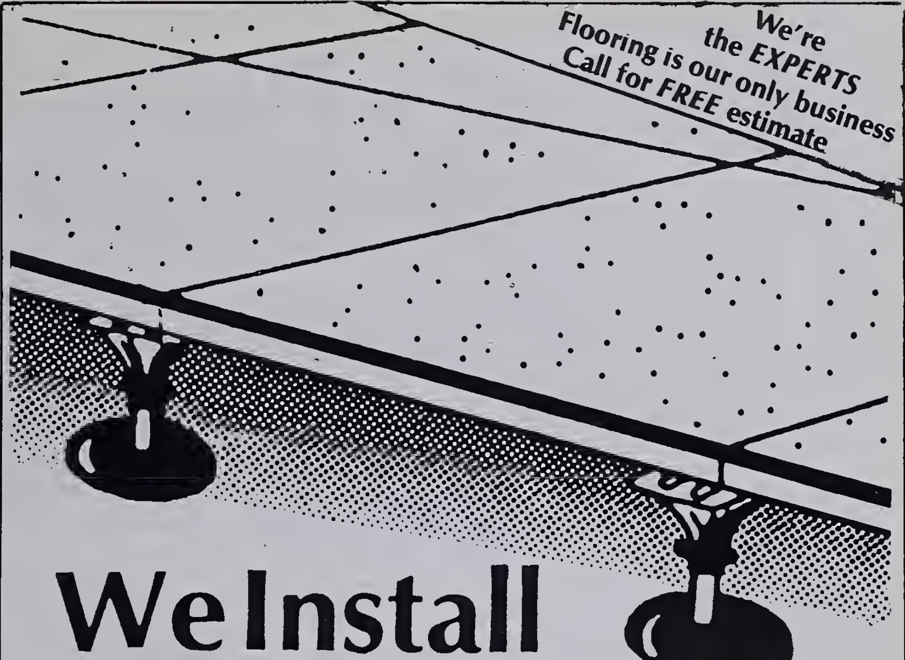

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The gang at Starpoint Software is an eclectic bunch. At times they are irreverent (not to say off the wall), but they always put out quality software. There is a very liberal upgrade policy for owners of V2.0, and for upgrades to V3.0 as they happen. I've not covered all the features of *DiSector*, but I can tell you that it is a well-written, well-designed product, and one that I can recommend. (Starpoint Software, 122 S. Broadway, Yreka, CA 96067.)

Fastback

Published by: *Fifth Generation Systems*
For: *IBM PC, XT, AT and Compatibles*
Price: *$179 copy protected, $204 not protected*
Reviewed by: *Aubrey Pilgrim*

A hard disk is a marvelous adjunct to a computer. It makes storage and retrieval of megabytes of data very easy and convenient. It can give you a great feeling of power knowing that you have millions of bytes of all kinds of data at your fingertips.

But, all too often, that feeling of power can turn to a feeling of powerlessness and utter frustration. That hard disk is a very delicate piece of machinery. It takes very little to cause the head to crash, or to have some other horrible malfunction occur, in which case all of those millions of bytes of data could be lost. Hundreds of manhours of labor and maybe some invaluable data could be lost in a brief second.

The answer, of course, is to make sure that you frequently back up your hard disk. One fairly easy way to back up is to use a tape machine. Some are designed to fit in a half-height drive space. Some others are standalone units that plug into the connector on the back of the floppy disk controller. And some of them require that you install a board in one of the precious internal slots to drive the machines. Unfortunately there are still no standard tape formats. Most importantly, tape backup machines are still rather expensive, some well over $1000.

You can always use floppy diskettes to back up a hard disk, but it would require about 30 diskettes to back up a ten megabyte hard disk. Each one of the diskettes would have to be formatted, which would require about one and a half minutes each or about 45 minutes for formatting. After this it could take several hours to go to each directory and sub-directory and copy each file to the floppy.

Fifth Generation Systems has made it a whole lot easier to back up a hard disk with floppies, using a program called *Fastback*. As the name implies, this is a very fast backup method. Fifth Generation claims that it's possible to back up ten megabytes in eight minutes with this program; in my case, it took a little over 16 minutes to back up eight megabytes on 20 diskettes. (The diskettes were new and unformatted. The program formats on the fly as it records, and would have run faster with preformatted diskettes.)

If you have a single drive the red light will stay on constantly. When the diskette is full, the computer will beep and a message will tell you to change diskettes. The process goes quite a bit faster with two drives because you can change one disk while the other is recording. The program switches from one drive to the other automatically.

One of the things that slowed me up was that I got some of the blank diskettes mixed with the ones that had been recorded. When I inserted one

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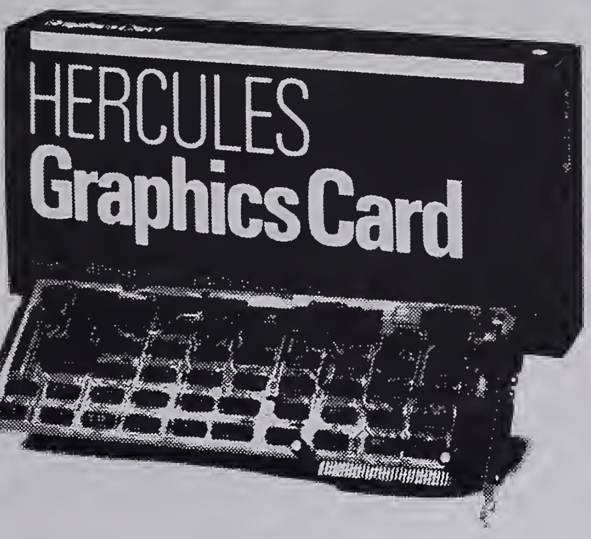

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504-767-0075

Elapsed time 13:58                128 secs operator
ESC to exit                  DOS performance: 100

CHANGE DISKS  Drive A: Insert disk #18
              Drive B:

C:\WSTUTOR\
C:\DBII\
C:\123\
C:\DBIII\
C:\TEMP1\
C:\123TUTOR\
C:\UTIL\
C:\TEMP\
C:\TEMP5\
C:\IRMA\
C:\NORTON\
C:\PCDRAW\
C:\TEMP3\
C:\FASTBACK\
C:\KEY\LAYOUT.COM
```

FIGURE 1
The screen displays the files being copied, the elapsed time and several other messages during the session.

that had already been recorded, the program immediately detected it, beeped and gave me a message.

The software program lists for $179 and comes on a single diskette. It is copy protected and must be inserted in the A: drive for a few seconds in order to start the backup. If something happened to the master diskette, you would not be able to use the copy portion of the program; however, the RESTORE portion of the program does not need the master in order to replace the backed up files onto the hard disk. For an extra $25 the company will sell registered owners a non-protected copy of the program. Because it is so easy to damage a diskette, I would advise everyone to pay the extra $25. (Incidentally, Fifth Generation Systems is based in Baton Rouge, Louisiana. That state has one of the strictest anti-piracy laws in the country. In order to get the copyable version you must sign a very strict and comprehensive agreement consenting to the jurisdiction of the state of Louisiana.)

A backup system is like having insurance. You hope you never need it. But if you ever do, it will pay for itself many times over.

```
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Backup is contained on 20 disks (#1-#20)

16 minutes, 22 seconds to copy 8519680 bytes
  in 556 files
8.673 kbytes/second (avg)
0.520 Mbytes/min (avg)
7.400 Seconds to change disks (avg)
27.000 files/diskette (avg)
425984 bytes/diskette (avg)
```

FIGURE 2
A summary like the above is displayed at the end of the session. Note that an average of 425984 bytes were stored on each 360K diskette.

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GRAPHICS SOFTWARE

Graphics Magician Junior

By: *Mark Pelczarski, Steve Meuse and David Shapiro*
Published by: *Polarware (1985)*
For: *Apple II (Double-Hi Res version requires IIc or IIe with extended 80-column card, color monitor and tablet or mouse are desirable.*
List Price: *$34.95*
Reviewed by: *Mike Markowitz*

This is a graphics program intended for the beginner, but it has plenty of features that the most advanced user-artist would appreciate. The program uses a bare minimum of drawing functions: line, draw, fill, brush, circle, box and triangle. These are selected by icon. There is a rich palette of colors: 108 in standard resolution and a staggering 256 in double-hi res. Some of these colors look pretty muddy on a composite color monitor. On a monochrome monitor, of course, they show up as a variety of textures.

This is one of the first graphics programs for the Apple II to provide full support for a mouse, but you can use keyboard cursor movement, touch tablets or any device that plugs into a joystick or mouse port. Drawing with a joystick is not a very good option, however, since it is too hard to control the movement precisely enough to get clean lines.

Pictures can be saved to any initialized DOS 3.3 disk, and there is a convenient utility for initializing a disk from within *Graphics Magician Junior*. Pictures are saved in a special "packed" format: to use them with other programs you must run a rather tricky machine language "unpacking" utility that is provided. There is no printer dump utility, however, and no suggestions in the documentation. The great variety of printers and interface cards for the Apple makes it a formidable task to include a full set of printer drivers, but this is likely to be a real disappointment for the beginner who is unfamiliar with the technicalities of Apple graphics printing. When you put a lot of work into creating an image, you want an immediate hard copy to show your friends.

The documentation for *Graphics Magician Junior* covers both sides of a poster-sized sheet. Information for the Apple and Commodore 64/128 versions are on the same sheet, to save printing and packaging costs. The program is packaged in a well-made foam-padded cardboard box, and the disk is not copy-protected.

Mark Pelczarski's previous graphics programs are widely used by other designers to create pictures for their own games. While *Graphics Magician Junior* lives up to the same high standards, it seems curiously incomplete without any printer support, especially since good color printers are becoming cheaper every month. Future versions of this handy little package should remedy the omission! (Polarware, 830 Fourth Avenue, PO Box 311, Geneva, Illinois 60134.)

The Graphics Magician Junior
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The Graphics Magician Junior, a simplified version of the popular Graphics Magician, is easy enough for beginners but also incorporates some sophisticated features.

Colormate

Published by: *SoftStyle*
For: *Macintosh*
Price: *$95*
Reviewed by: *Hartley and Pattie Lesser*

Colormate is a partial answer to the oft-heard cry of "Where's the color Mac?" Although many Macintosh users feel that the high resolution capabilities of the black-and-white screen are far more pleasing than a lower resolution with color, SoftStyle has managed to produce an item of software that maintains the Mac's high resolution black-and-white screen while producing 8-color hard copy printouts on a color dot matrix printer. In the case of this review the attached printer was Apple's new Imagewriter II.

Colormate is handy for use at office and/or home. Business presentations can be enhanced by using *Colormate* to color graphs or other charts: at home or school it *could* be used to create personal stationery or coloring books for the young user or provide colorful treatments to the church newsletter, perhaps.

Colormate features a *MacPaint*-like program that allows the user to "color" each bit in a *MacPaint* or *Colormate* graphic. On the right side of the *Colormate* screen are six icons: lasso and rectangle for selecting areas of the graphic, a fill-bucket and crayon for the actual pixel coloration, an eraser and a magnifying glass. The bottom and right border of the actual *Colormate* screen contain scroll bars. At the bottom of the screen is a color menu, called Display Selection Blocks, similar to the pattern menu found in *MacPaint* screens. Here, however, instead of a pattern being displayed, the user is shown what color is "active": black, violet, blue, green, yellow, orange, red or white. These colors may be active in either a light or dark capacity. *Colormate* lacks the hand icon (for dragging the graphic about the screen) and a "Show Screen" menu selection (to assist with graphic placement on the page). We hope future releases incorporate those features.

The program comes with a Learning Demo on the disk as well as some sample pictures, with the documentation heading directly into the tutorial. Some nicely executed, color picture examples can be found in the last three pages of the manual. The *Colormate* program is not copy-protected and is easy to install on any mass storage system. The disk boots as does any Macintosh micro disk.

The program is not difficult to learn. You can simply create a picture on the *Colormate* screen using the crayon, or import a *MacPaint* graphic into *Colormate* for enhancement. *Colormate* does not work with graphics created by other programs such as *MacDraft* or *MacDraw*.

Before coloring a selection, you must make certain to prevent spillage of color beyond the limits of selected areas by closing all drawings completely. This is most easily done in *MacPaint* with

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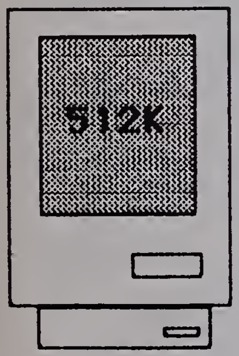

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Fat Bits: however, it can also be accomplished in *Colormate*. Select either the magnifying glass icon or the crayon icon, move them to the graphic area you wish to investigate, and hold down the command key while clicking the mouse button. Each pixel in that area is now displayed. Select a color from the lower menu and, as in *MacPaint*, simply click to turn on, or turn-off, a pixel.

By clicking once again on the magnifying glass icon, the picture returns to its normal sized display. Using the fill bucket, all you have to do is click once on the color of choice and "fill" in the portion of the graphic you wish colored in that hue. You'll note that the area selected inverts in color as it is filled, and then returns to the normal display.

To check the area for the correct color indication, you can move the magnifying glass over the area and hold down the mouse button. If any color other than black or white is present, the pixel within the magnifying glass registers with the first letter of its color. Black and white are displayed as black or white blocks. For additional color examination, the Display Section Blocks are an extremely useful tool. By clicking in the light block for a color, you can display that color on screen as a light area. by clicking in the dark block for that color, the opposite occurs, and the color is displayed as a dark area on-screen. This is also the method for obtaining color separations, as color isolation is very simple to arrange. As each color is separated, the image is Copied and then Pasted to a *MacPaint* document.

The user is not limited to just using the fill-bucket to color an image. By using the magnifying glass you can change individual pixels to any of the eight colors. This is accomplished by utilizing the crayon and selecting a color from the menu. As you click the crayon on the screen, the pixel beneath the crayon's point changes to a letter indicating the color selected. In this manner, shading can be brought into play. By using patterns of red and white, a pinkish tinge could be effected in the print-out. Experimentation is the best policy.

Once you've saved a graphic in *Colormate*, the only program that can open it again for re-editing is *Colormate*. You cannot re-open that graphic as a MacPaint image. Also, if you happen to have color names in the light blocks in the Display Selection Blocks area and are involved in some disk operations, the names disappear; you must re-click in the blocks to make the names reappear. For those times when you goof with a color, a Revert command in the Edit Menu does allow the user to back up to the picture's state prior to the last use of the scroll bars or a hard-copy printout.

The printer selections include Print Draft and Print Final, and you can also Set Printer in *Colormate*. Everything from the port you wish to use to the baud rate can be set to your specifications. The printing of copy in both Draft and Final mode was flawless on the Imagewriter II.

If you've worked with *MacPaint*, you'll have absolutely no problems with *Colormate*. Unfortunately, the inability to re-open the document using *MacPaint* is a handicap. Rarely are graphic placements or other graphic duties performed with complete accuracy before the drawing is transferred to a *Colormate*. If, after the first pixel of color has been painted using *Colormate* you find that you need to move to *MacPaint* for a "Show Screen" view of the entire drawing, you're out of luck. The scroll bars do allow for incremental movement of the graphic in *Colormate*, but lacking the overall view can be frustrating.

We did find that using *Switcher* was the best way to utilize *MacPaint* and *Colormate*, as it allowed for immediate access to the latter program after the *MacPaint* drawing had been saved to disk. We also made certain that we had a backup copy of each MacPaint drawing saved, so that in case an error was made on the first enhancement with *Colormate*, we could always re-edit in *MacPaint* prior to importing the material for a second time into *Colormate*. At no time did *Colormate* crash the system or fail to operate as advertised.

The documentation is well-written, but without index or table of contents. The inclusion of the simple tutorial was well-conceived and executed and should aid anyone in becoming proficient with *Colormate* in less than five minutes.

Colormate operated on both a 128K and 512K Mac and was copied to an Apple HD20 hard disk drive without problem.

The company does not have a toll-free number for support queries, but does list its local telephone number on the first page of the manual. However, that local call is to Hawaii—long distance for most!!

Colormate is a well-written printer driver for those who wish to "colorize" their Mac graphics. The software is definitely a must for those who have the time to hack and hue their pixels, but is not a program to be used without thought and care. One incorrect step in *Colormate* and it's back to the *MacPaint* drawing board. The addition of two elements dealing with graphic viewing and moving in *Colormate* would be extremely useful and should be considered for future releases. We thoroughly enjoyed *Colormate*'s capabilities and recommend the product to anyone with an artistic attitude toward Mac's superior graphics—they truly look fantastic when mated with color! (Soft-Style, 7192 Kalanianaole Highway, Suite 205, Honolulu, HI, 96825, (808) 396-6368.)

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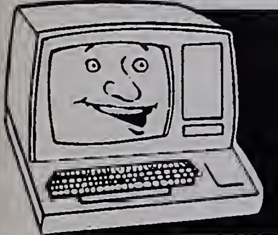

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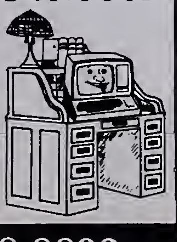

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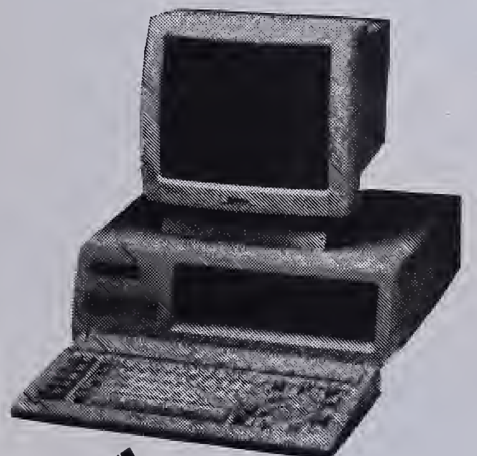

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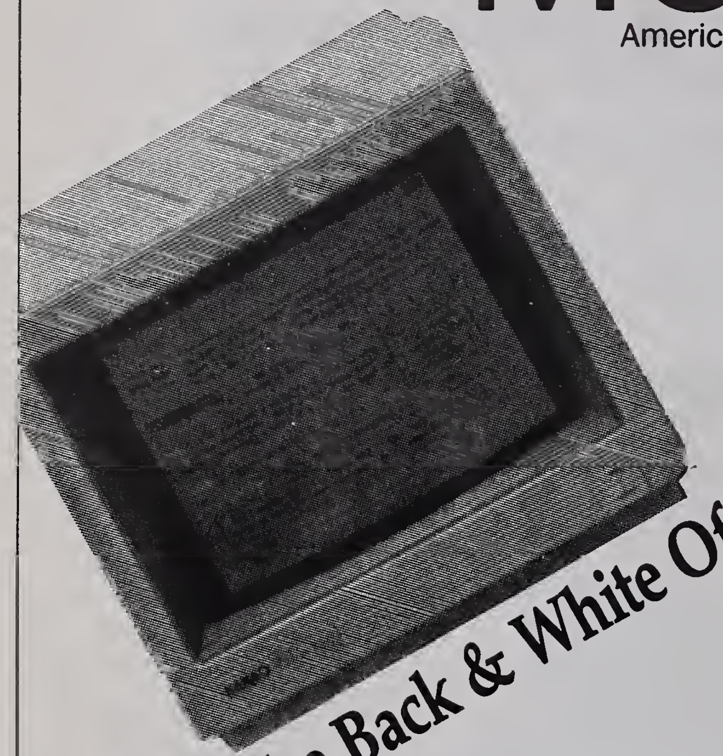

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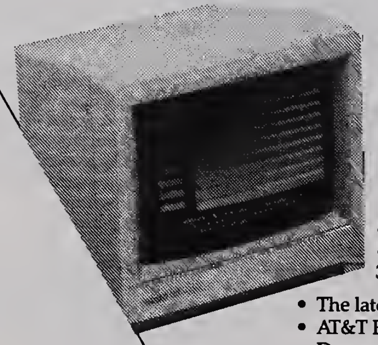

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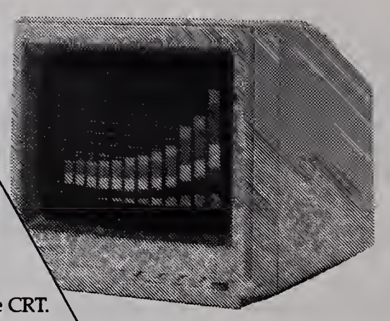

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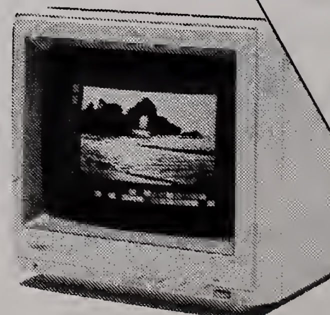

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The Mythical Man-Month

Essays On Software Engineering

By: *Frederick P. Brooks, Jr.*
Published by: *Addison-Wesley*
Price: *$17.95 (paperback)*
Reviewed by: *Mike Markowitz*

The history of electronic digital computers is now entering its fifth "generation" of hardware, and it is easy to forget that all this has taken place within only one generation of human beings (those slow-moving carbon units). Institutions like the Computer Museum in Boston are doing much to salvage historic hardware from the scrap heaps, but where shall we look for the priceless accumulated wisdom and experience of the people who created the machines and systems?

The Mythical Man-Month is a good place to start. It belongs on your "Classics of Computer History" reading list. The author, a professor of computer science at the University of North Carolina, Chapel Hill, led the team that created the IBM 360's operating system during the early 1960s. Most of these essays were written well before the Two Steves conceived the idea of a "personal" computer in that mythic garage, but (as any student of history knows) things never change. From the smallest micro to the mightiest mainframe, users must struggle with operating systems designed by committees. The main theme of these essays is the problem of creating complex software with "conceptual integrity."

> The programmer, like the poet, works only slightly removed from pure thought-stuff. He builds his castles in the air, from air, creating by exertion of the imagination. Few media of creation are so flexible, so easy to polish and rework, so readily capable of realizing grand conceptual structures.... Yet the program construct, unlike the poet's words, is real in the sense that it moves and works.... It prints results, draws pictures, produces sounds, moves arms. The magic of myth and legend has come true in our time. One types the correct incantation on a keyboard, and a display screen comes to life, showing things that never were nor could be.

Brooks provides a sharp and witty analysis of the inevitable schedule slippage in software development. All programmers are optimists, especially when estimating how long it will take to develop a block of code. As deadlines draw nearer, managers are always tempted to add more programmers to the task. This is a fatal error, says Brooks: "The application of more effort has no effect on the schedule ... The bearing of a child takes nine months, no matter how many women are assigned."

The key problem is maintaining communication between people working on different parts of the same product. Brooks describes ways of organizing work groups "like a surgical team rather than a hog-butchering team ... instead of each member cutting away on the problem, one does the cutting and the others give him every support..." Such roles as "copilot," "toolsmith" and "language lawyer" are critical elements in the process.

Anyone involved in software development, or interested in the process, will enjoy *The Mythical Man-Month*. Many of the references will be incomprehensible to readers unfamiliar with the world of IBM mainframes, and the specific computers mentioned are becoming museum pieces. But the grace, wit and style of the writing are timeless, and the illustrations are wonderful. A

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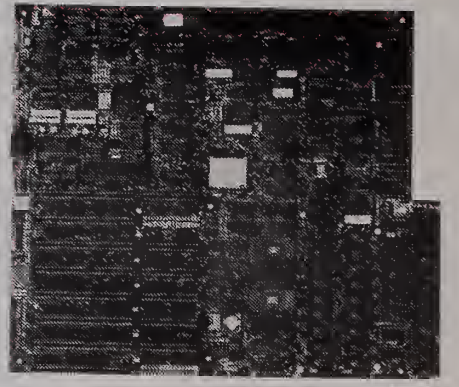

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picture of Stonehenge, for example is captioned "the world's largest undocumented computer" and the cover illustration of giant ground sloths struggling in the prehistoric La Brea Tar pit is an apt metaphor for more than one contemporary software development house.

AmigaDOS Reference Guide

By: *Arlan R. Levitan, Sheldon Leeman*
Published by: Compute! Books
Price: *$14.95*
Reviewed by: *Matthew Leeds*

Many of those who bought Amigas may never need to understand the workings of their machine. The Workbench environment of icons, menus, and windows will eliminate their need for direct access to the Amiga's inner workings. Once there is a large base of software, including utilities to accompish every task you need to do, there might be no need to understand AmigaDOS.

However, human nature being what it is, and taking into consideration the current lack of basic utilities that run under the Workbench, the rest of us want to know how to make the damn thing work. Commodore's decision not to include any information on AmigaDOS with the user's manual has led to considerable frustration. The developer's manuals were in short supply for a long time, and overpriced when they were available.

The solution has arrived. Compute!'s *AmigaDOS Reference Guide* is the "other" manual needed to gain access to the inner working of the Amiga; it should be in the box with every Amiga sold. It gives a thorough explanation of every facet of the operating system, from the directory structure to batch files, the screen editor to the CLI environment.

A few examples should show why this book is so valuable. When you copy a file from one disk to another on the Amiga, no checking is done to see if a file with the same name already exists on the destination disk. This book tells you how to write a batch file that will check for you, then copy the file. The Amiga supports a RAM disk, but there is no way to set one up from Workbench unless you buy a utility program to do so. In ten minutes, using this book, you can write a batch file that will not only create a RAM disk, but move whatever files you desire into it.

Want to be prompted to enter the date every time your machine is turned on? Want a custom greeting from your machine? Create a SLI disk? This book will tell you how.

The book begins with an overview of AmigaDOS, explaining the rudiments of the Amiga's capabilities, and the differences between the Workbench and CLI. It then goes into an in-depth explanation of the CLI (Command Line Interface) environment, the file structure and directory hierarchy on the Amiga, what logical devices are, and what batch files are and how to create them, with several examples.

There is a full AmigaDOS reference section, explaining each function, its capabilities, format, and parameters, using examples that clearly show its use. There are also sections that explain what the files on the system disk are, and an appendix on AmigaDOS error messages.

Also included are tutorials on using ED, the system screen editor, and EDIT, the system line editor.

There is quite a lot of functionality hidden in the Amiga, not easily accessible from Workbench. All of the functions that can be called from Workbench are part of AmigaDOS, a collection in the C directory on the system disk (Workbench disk).

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Working from a CLI window, you can use any of these functions, or create your own. To create your own functions you build batch files. You can use ED, or a text editor of your choosing. Batch files use a command language that bears a striking resemblance to structured BASIC, and they can also use any of the functions contained in the C directory.

If you own an Amiga, or plan to buy one in the near future, you must buy this book. Owning an Amiga and not understanding how to use the CLI environment and AmigaDOS is like owning a sports car and not knowing how to get out of first gear.

GAMES

Crusade In Europe

Programmed by: *Sid Meier*
Apple Conversion by: *Jim Synoski*
Published by: *Microprose (1985)*
For: *Apple II (64K)*
List Price: *$39.95*
Reviewed by: *Mike Markowitz*

Wargames (or "conflict simulations" as we say in the trade), as developed by a devoted cadre of hobbyist-nerds over the past two decades, are exceedingly information-intensive. The map-board reflects a detailed terrain analysis of the battlefield. The markings on the game pieces encode a lot of data about the identity and capabilities of the units that fought the battle. And the rules, Oh, Great God of War, the rules! In page after page of cases and exceptions, the rulebooks attempt to capture the complex dynamics of maneuver, supply, combat and victory.

Some wargamers play for the thrill of victory. Some enjoy the sense of recreating history. And some just love to argue over the interpretation of the rules.

When personal computer software started to replace cardboard and dice as the medium of wargaming, many of us hobbyist-nerds hoped that the machine would be the perfect opponent: always available, tireless, challenging, incapable of cheating, and unable to hog the Doritos.

Moreover, the computer could keep track of the rules and handle the bookkeeping, leaving the gamer to concentrate on daring tactics and profound strategies.

Ha, Ha, Ha. Fat Chance.

When wargames were translated into software, they retained most of their bad habits. The problem of information overload remains. The Curse of the Hexagonal Grid still prevails. The "user interface" still requires one eye on the manual and one on the map.

Crusade In Europe suffers from these problems. Nevertheless, it is a hell of a good game. The mark of a good wargame is that it says something intelligent about a slice of history. Human history, alas, is largely a record of mindless bloodshed, but if any war can be described as "worthwhile," the Allied campaign to free Western Europe from Nazi occupation (1943 to 1945) should top the list.

On the level of infantry, armored and airborne divisions, *Crusade In Europe* covers the Normandy Invasion, the breakout and pursuit from the beachhead, the Arnhem paratroop operation and the Battle of the Bulge. The game can be played as a continuous campaign or as individual scenarios. The computer can play either side, or simply mediate between two human players. Victory is determined by possession of key cities. A constant stream of text messages from your units helps to convey the sense that you are Supreme Commander at Headquarters.

The joystick can be used to select a given unit, examine its status, assign its objective and issue orders. Keyboard commands can also be used. Combat results are expressed as losses in men and tanks. Units may retreat or even disintegrate if hard-pressed.

The icons or symbols that represent units on the map are crudely drawn and hard to decipher. There just aren't enough pixels at this resolution to allow for an attractive, easily interpreted screen picture. (Most wargames for the Apple suffer from this defect.) The black background doesn't help either. On the other hand, there are some very well done animation effects as units fight, advance and retreat.

In the actual campaign, traffic jams were a real problem. The British at Arnhem and the Germans in the Ardennes tried to push too many divisions down too few roads. The game accurately reflects this: units cannot "stack" or even pass through other friendly units.

In most of the scenarios, however, there are simply too many units for the player to manage. All the symbols look alike. There should be some way to group divisions into army corps or task forces with a common set of orders, to reduce the workload on the players.

The manual provides an excellent historical summary, a solid bibliography, and some handsome line drawings of military vehicles that figured in the campaign. Shoulder patches of some famous units are also illustrated. A rather silly feature scattered through the manual is a series of "code words" that must be entered periodically to continue the game. This was kind of cute in Microprose's *F-15 Strike Eagle* game, but it's getting old. Presumably intended to discourage copying of the disk, it simply requires that the software pirate have access to a photocopy machine.

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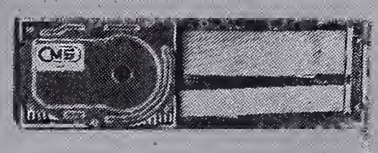

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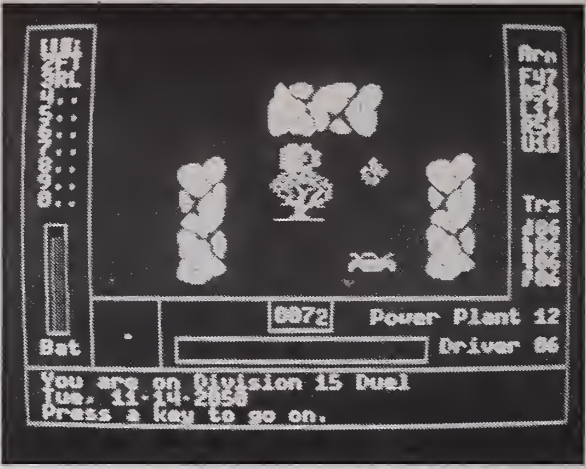
Crusade In Europe is a complex, demanding simulation of an important part of the Second World War. The designers obviously did their homework, and the game can serve as a tool for exploring the "what ifs" that military historians and armchair generals have debated for over a generation. But the designers have followed the conventions of cardboard wargaming too closely. The real power of the computer is not used to good advantage, and the limited resolution of 8-bit color graphics spoils the clarity of the presentation. Computer wargaming badly needs some new ideas, as well as some new hardware.

Autoduel

By: *Richard Garriott and "Chuckles" (1985)*
Published by: *Origin Systems*
Distributed by: *Electronic Arts*
For: *Apple II (64K and joystick required)*
List Price: *$49.95*
Reviewed by: *Mike Markowitz*

The year is 2030. It is a world somewhere between the scenarios of *Rollerball* and *Mad Max*. The highways are controlled by marauding outlaws. Lethal motorized combat, regulated by the American Autoduel Association, is the most popular spectator sport. Steve Jackson's successful board game, *Car Wars*, is now translated to the small screen by the team that created the *Ultima* series. The result is a superbly crafted example of the toughest thing in game design: to combine an arcade-style action game with a role-playing adventure game.

This game demands a joystick: no substitutes will work right. It deserves a color monitor, but looks acceptable on a monochrome screen. Both sides of the disk are used; you must copy "side B" (using the DOS or ProDOS copy utility) to create a working disk for the characters you create. The program disk is (very wisely) not punched with write-enable notches, so there is no danger of messing it up by an incorrect disk-swap. The program will use a second disk drive if you say so.



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Would-be road warriors can hone their skills with Autoduel.

Your character is endowed with a $2000 nest egg and fifty points of aptitude to allocate between driving skills, mechanical ability and marksmanship (beginners should go heavy on the marksmanship). A character moves among three environments: the city centers, the arena and the open road. The first task is to buy body armor (a bargain at $250) at the Truck Stop. You could wander over to the Assembly Line to order a customized duelling vehicle, but you don't have enough money for anything survivable. You have to head down to the Arena and sign up for Amateur Night. The arena provides contestants with fast, lightly armed Killer Karts. You steer with the joystick and shoot with button 0 (button 1 is used to select the active weapon on cars that have more than one). Control panel readouts monitor your speed, armor, tires, battery charge and driver status. A tiny radar screen gives advance warning of approaching enemies. Your opponents (controlled by the computer) get progressively more difficult. If you defeat them, you win big bucks. When you get killed, the keyboard locks up.

Autoduel is an easy world to enter, but richly detailed with many layers that have been carefully thought out. Vehicle design is a complex art, with cost and performance tradeoffs between weight, power, suspension, and armament. The 32-page manual explains the options and describes some basic designs: the Turtle (maximum armor), the Rabbit (maximum speed) and the "Kali" (maximum armament), for example.

To earn money, a player can undertake courier missions between towns, sell weapons salvaged from defeated opponents, or even travel to Atlantic City, where the Casino offers complete simulations of Draw Poker and Blackjack. Gold Cross, the medical corporation, can heal injuries for $100 per point, or create a complete clone for $5000. If you are killed the clone is activated in the city where it was created.

Along with the manual and reference card, the game box contains a handsome map from the American Autoduel Association ("Drive Offensively: The life you save may be your own") and a neat little pocket tool kit with a tiny wrench, hammer, screwdriver, etc. The game has a snappy, quick response that indicates careful programming and a smooth user interface. Frustrated road warriors, who long for a turret-mounted laser cannon or armored ramming bumpers when traffic bogs down on the freeway, should find many hours of harmless diversion in this package. (Electronic Arts, [415] 571-7171.)

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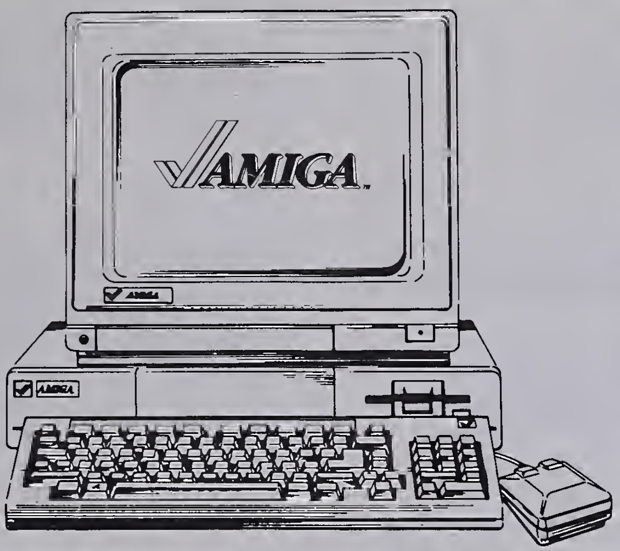

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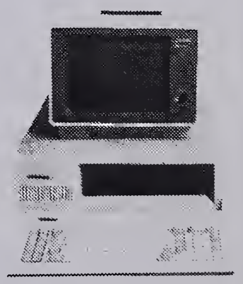

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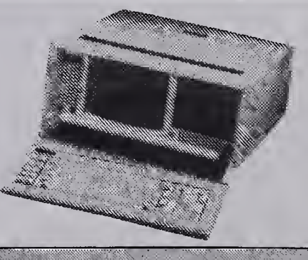

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USER GROUP NETWORK

By Mary Eisenhart

Quite a few people from various user groups stopped by our booth at the Computer Faire, and it was nice to be able to connect faces with the names. We also had quite a few blanks printed up for new listings, which are continuing to trickle into the office every day (in fact, we're a little backlogged with new listings coming in, so if your listing didn't make it in this month, don't despair. If it's not in next month, then worry and give us a call).

Several people have used **The WELL** (415-332-6106) to leave us messages of interest. **Brian Mavrogeorge,** who operates the **ROOTS-BBS,** reports that his board has recently been upgraded to a 30 meg hard disk to accommodate its increasing files of family surnames. He elaborates: "We now have well over 11,000 surname citations that can be searched. Two local software authors have kindly used ROOTS-BBS as a distribution point for their shareware offerings." So if you're interested in using your computer to help you search out your family tree, check the ROOTS-BBS, which operates 24 hours, seven days a week, at 300/1200 baud, 8-N-1. Or leave Brian (aka <rooter>) mail on The WELL.

The ever-thoughtful **Robin Spalding,** who hosts the WELL's "On The Air" conference, also has a free BBS, which is similarly directed toward the needs and interests of those in the radio broadcasting field. Says Robin: "Since The WELL costs money to use, I want to make the exchange of info amongst broadcasters and the public available to those who don't want or can't afford a subscription board. **MOTHERBOARD,** located in the East Bay, can be reached at (415) 352-8442. Persons working in radio as well as those who listen to various stations are welcome to participate." Also, those who want to leave a message both on The WELL and MOTHERBOARD can indicate this to Robin (<coeur> on The WELL) on either board, and it will be taken care of.

Other WELL happenings: **Tom Mandel** points out that there's a new conference for **Framework** users. Says he: "The conference is not connected in any way with existing *Framework* users' group, but perhaps it'll eventually turn into one. . . ." **John <crunch> Draper** is hosting a new conference called **Programmers' Network.** And so it goes.

On other fronts, **David Coleman** of the **IEEE Computer Societies Committee on Artificial Intelligence and Expert Systems** reports that the committee hosts an open meeting on the third Thursday of each month from 7 to 10 pm at Foothill College. He adds, "The meeting on 5/22/86 will feature **Mr. Tom Schwartz,** AI Editor for EE Times, speaking on Expert Systems on PCs. The topic for the 6/26 will be 'fifth generation interfaces,' and July's topic (7/24) is 'neural networks and their applications to AI.' " AI enthusiasts and others can call (415) 327-6622 for further info.

The **South Orange County Computer Club,** a sterling SoCal organization, is hosting its **5th Annual Software Faire** on Sunday, June 1. According to the memo passed along by SOCCC's **John R. Johnson,** "public domain software for IBM, CP/M, Apple II and Macintosh, including the libraries of PC-SIG, PC Blue, SIG/M, CPMUG, Piconet, Kaypro, and Apple SIG, will be available. Over a thousand different public domain programs will be available. The software will be available for a nominal copy fee." Much of the software will also be demonstrated at the Faire, which is being held at the Brookhurst Community Center in Anaheim, on Crescent Street just west of Brookhurst and south of the Santa Ana Freeway, from 10 am to 4 pm. Admission is $1, which makes the Faire one of the better bargains around. Call **Tom Milkie** at (714) 956-5054 for more information.

Not to be outdone, **Apple Sac,** Sacramento's Apple group, is hosting a **Swap Meet** on May 7. In addition to offering an Apple IIe as a door prize, the meet will furnish a great opportunity for Sacramento-area Apple enthusiasts to pick up goodies for their machines at bargain prices. Call president **Ray Beam** at (916) 448-6115 for information.

In LA, the monthly meeting of **INTERFACE** will feature a discussion of career opportunities in the computer field, as seen by a placement "headhunter," and a demonstration of Apple products including the Mac Plus. The meeting will take place on May 4 from 4-7 pm at Open Quest Institute, 1305 S. Alvarado St. at Pico in LA. (INTERFACE is an LA-area gay and lesbian computer users' group for socializing and information exchange. Meetings are free and open to all.) Call **Jim** at (213) 664-1127 or **Pam** at (818) 368-0437 for more information.

Peggy Lloyd reports that the **Club 16 Users Group** meets once a month at 2790 Harbor Blvd. (aka the CBS store) in Costa Mesa. The group's purpose, she says, is "to share knowledge of the 16 bit world." "It is a small group, so that everyone can get to know each other and share," adds Peggy, who also notes that the club shares an RBBS with **K-WEST.** The board is online 24 hours a day and offers "the best of public domain in the Kaypro CP/M world and the DOS world. Registration is required, by mail or left on the board. You may upload and download to your heart's content. No fee, membership system." The RRBS number is (714) 646-3060, voice number is (714) 645-9868.

This month we got not one but two notes from people who want to start users' groups for the **AT&T 6300.** Unfortunately, they probably don't live close enough to each other do each other much good, but perhaps some kind-hearted souls in their respective neighborhoods will take pity on them. After all, with as many 6300s as there are out there, there must be users' groups someplace.

Anyway, NoCal 6300 fans are earnestly entreated to contact **Victor A. Borromeo,** who didn't give his phone number but did give an address of 764 St. Francis Blvd., Daly City 94015. Meanwhile, if you're in the Orange County or Riverside area and like 6300s, please give **Chuck Patten** a call at (714) 851-0119—he's trying to get a new group started and would welcome input.

Just in case there's some **Gavilan** techie out there who reads **MicroTimes** and not **Byte** (an unlikely scenario, perhaps, but we try to be helpful. . .), **Jesse Martinez** in Reno wrote **Jerry Pournelle** a plaintive letter in which he explained that his faithful Gavilan had developed a hardware problem, which in turn required schematics, technical manuals, etc.—which he's been unable to find. Alas, no ready solution seems to be forthcoming. If any of you kind folks have suggestions for where help might be available, please contact Jesse at P.O. Box 11284, Reno, NV 89510.

It's Never Too Early To Make Reservations Dept.: Our old friend **Linda Kahn** of the **FORTH Interest Group** sends along a notice that the FORTHians will be holding their annual convention and banquet on November 21-22 in Santa Clara. Interested parties should call FIG at (408) 277-0668.

Devotees of the **THEOS** and **OASIS** multi-user operating systems will be glad to know there's a user group just for them in the Bay Area—**Joe Trimble** reports that the group meets quarterly to focus on "hot" issues and share information. Meetings are held quarterly at the San Francisco Chamber of Commerce. Unfortunately the spring meeting was held on April 22, so you probably missed the discussion of 8-bit vs. 16-bit systems, but don't despair. Give Joe a call at (415) 839-3281 and he'll tell you about the next meeting and how to get there.

If you're a user who's managed (in all the spare time your computer gives you) to create a dynamite program and are now wondering how to market it, you're not alone. Fortunately, the **Software Entrepreneurs' Forum** is offering an all-day seminar on May 17, addressing this very issue. "The Direct Marketing Approach," featuring practical advice from **Ray Jutkins,** a 20-year veteran of direct marketing, will feature an "Eight-Point Recipe" for the planning and execution of a direct marketing program. Questions and discussion will be heartily encouraged. For information on the seminar or on SEF, call (415) 854-7219.

Edward Suttles of SF reports that the **Apple III** is alive and well at **ATUNC, the Apple Three Users of Northern California.** He describes his group as "a thriving group of owners who still find much to recommend this system despite the fact we are and have been orphaned for the past two years with no available basic hardware and a dearth of developmental software. Our interests are largely becoming acquainted with the vagaries of the system, and volunteers conduct all the activities, chairing sessions and explaining and demonstrating the various software packages, etc., peculiar to the Apple III." ATUNC offers a large public domain library, available to members and non-members alike; current membership in the Bay Area is hovering at 125 and growing. The May meeting will be held at 7 pm in San Francisco State's Humanities Building, Room 114. **John Spencer** of the San Jose Finance Department's Accounting Division will speak on "PASCAL: A Structured Language for the III." III users, check it out. And write ATUNC at 220 Redwood Highway #184, Mill Valley, 94941. or contact Edward at (415) 647-2759 for more information.

TRS Hackers take note: **Eric Bagai** announces that the **VTHG—Valley TRS80 Hacker's Group** has changed its meeting address. The new meeting place is the Valley Plaza Park Auditorium, 12240 Archwood St. in North Hollywood, first Fridays at 7 pm. Eric invites inquiries at (818) 982-0467 or by mail at P.O. Box 9747, North Hollywood 91609. He describes the group as "Programming and problem solving for Models 1/3/4. No vendors. No machines. No dues. No sweat. Bring a blank disk and get NEW public domain software." Sounds like a good idea.

That's about all for this month. Keep those cards and letters coming in to 5951 Canning Street, Oakland, CA 94609. And keep that e-mail coming in to <microx> at The WELL, too. ☐

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Bay Area Atari Users Group 24 hour BBS (408) 578-2390.

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BAKUP (Bay Area Kaypro Users and Programmers) (415) 223-2237 RBBS & RCP/M — Must be a member of BAKUP, P.O. Box 20181, Oakland, CA 94620.

NCR BBS of Northern California (408) 744-0556. Bulletin board for all users of NCR microcomputers (PC-4 and Decision Mate V). Learn more about NCR's microcomputers. Contact Lee Sherman or Jim Chandler, 756 San Aleso Ave., Sunnyvale, CA. (408) 743-4933.

MBL Referral System BBS A board dedicated to personal messages and advertising listings. Modem: (415) 444-6362; 6 pm - 6 am weekdays, 24 hours weekends. MBLRS BBS users meeting Saturdays, 5:30 pm, 1555 Lakeside Drive, Suite 23, Oakland. Call (415) 444-3033 for info, ask for Mel.

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ROOTS—BBS. Available 24 hours, 7 days a week, supports 300/1200 baud at 8/N/1. Specializes in genealogical info with messages, upload and download of CP/M, DOS, Apple software. Sysop: Brian Mavrogeorge. (415) 584-0697.

Vortex BBS. (916) 481-0194. 24 hours, 300 baud. Pamela Lunsford, sysop.

Bulletin Board Hewlett-Packard BBS. Features HP-current events and user information. 24 hrs., 300-1200 baud, 7 bits, odd parity, 1 stop. NO FEE. (408) 747-1243.

Welch Net II. A public FIDO BBS. Message areas devoted to Turbo Pascal programming and Seequa Chameleon computers. Available 23 hours/day. (415) 664-2811.

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Software First BBS 24 hrs., 300 baud. (415) 459-1544 Marin, (707) 579-1478 Sonoma. 23 message boards — restaurant, sales, Amiga, ST, women's forum, reviews, sci-fi, general E-Mail, monthly specials on hardware, software, peripherals.

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Silicon Valley Sysop's Exchange. Merlin's Castle BBS (300 baud only), (408) 578-1563. Sharks Head BBS (300/1200 baud), (408) 247-4810. The Man O'War (300/1200 baud), (408) 243-2370.

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Gamenet Bulletin Board System. BBS is devoted 100% to gaming subjects. 24 hours, 20 boards, 10 D&D/RPG boards, Alkahest, professional book reviews. Unending Story, Adventurers' Training Ground, Game Hint, etc. Sysop: L.J. Phone: (213) 541-8039.

The Consultant's Exchange BBS Serving professional computer consultants and students since 1983 with the finest public domain software for the IBM-PC. Featuring consultants list and job list. (714) 842-6348 24 hours.

Thousand Oaks Technical (805) 493-1495. This massive 64 megabyte board has a mind-boggling number of downloadable programs. The board has no bulletin board feature and allows unlimited upload time. Download time is limited depending on upload exchange.

Granada Engineering Group RCP/M (818) 360-5053. Technical information, BBS lists, and help on CP/M assembly language program writing.

Aware ii (213) 851-0780. Sports BBS with different discussion boards centered around USFL, baseball, etc.

Junkyard Data (213) 867-9541. Multi-interest board in Norwalk with everything from jokes and for sale items to reviews (movies & software), trivia questions, an adults only section, etc.

Marina Matchup (213) 397-6300. This Mar Vista-based dating board operates with Martian software.

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International Collectors Network. 2265 Westwood Blvd., 801, LA CA 90064, SASE. (213) 204-0646, 8 bit word, no parity, 1 stop bit. 300/1200/2400. 24 hours. Free. Use password "Visitor" when logging on for the first time.

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Redwood Color Board. A BBS for the Color Computer user. 300 baud. 7/E/I, 24 hrs., 7 days. (415) 364-2658.

The Computer Consultant's Network, (213) 479-4074. Running a modified version of Martian! Software. 24 hours a day. This is not a job board, but merely a place for computer professionals to network and share information.

Open Campus BBS (415) 577-3409. Free, registration required (leave info with first call). 20 message bases and a library of permanent files including programs. Apple based, homebrew software, 5 megs, 300 baud. Operated by San Leandro High School, official BBS for San Leandro Apple Eaters Users Group. Sysop: Bob Shayler.

Photobytes, a photography oriented BBS, features product information, help files, photo contest listings, plus much more. Sponsored by Wentling Camera Shops. 300 baud, (415) 439-2515, 24 hrs. 7 days.

"The Meeting Place" BBS 300/1200/2400 baud. 24 hours, no parity. AE line for public domain downloads. Apple, Commodore, IBM programs available for download. Numerous general files. No fees — all free. Call (916) 662-1838. Woodland, CA.

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Guideboard, Cabbie's Guide to San Francisco — where to go for restaurants, doctors, auto repair, etc. The sysop gets his tips from driving a cab — the callers furnish the rest. The BBS also has an resident astrologer, Swammi Tommy. The Swami gets his tips from the stars — ask him any question. (415) 864-3858, 300/1200 baud.

Entrepreneurs BBS: Official BBS for Community Entrepreneurs Organization (CEO), and XT Compatible Club. 1200/300 baud. 24 hours, 20 megs., 8 bits, no parity. Entrepreneurial networking and information, brainstorming, and on-line support for IBM XT clones. Sysop Edwin Rutsch. (415) 552-9070.

Kelley-Net BBS. Bulletin board for all Zenith/Heath personal computer users. Special areas for Zenith Users, Bay Area Minority Business Consortium, Personals, Classified Want Ads, Women's Room, political discussion areas. (415) 861-1874, 24 hrs. 7 days.

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Warren Communications Network. TI BBS, 24 hours, 300/1200 baud, graphics, speech, downloads. Sysop Douglas Davis. (818) 361-9294.

Byte Bandits—Colossus—Net. (408) 374-3974, 300/1200, 24 hours. Network USA. Sysop Sam C. Brown.

Bizcomp BBS. Sunnyvale, CA (408) 720-9212, 300/1200, 24 hours. Message base specializing in modem technical help,

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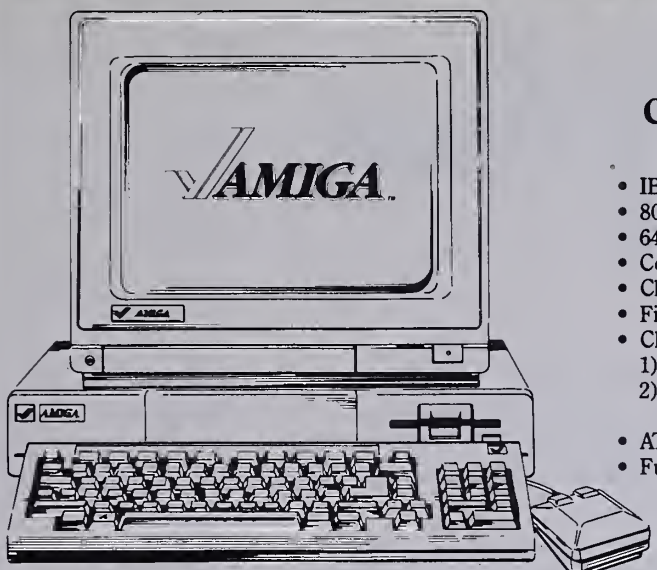

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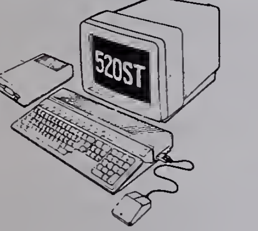

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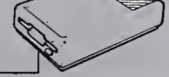

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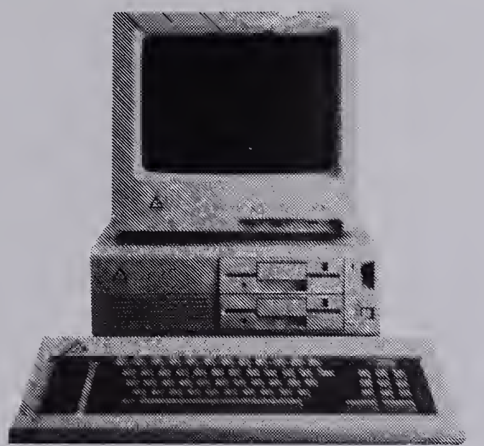

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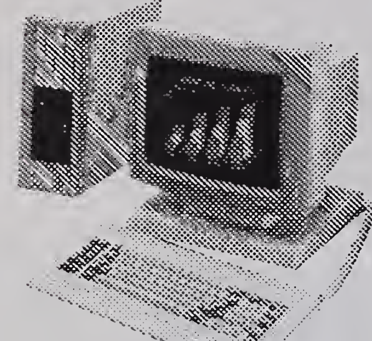

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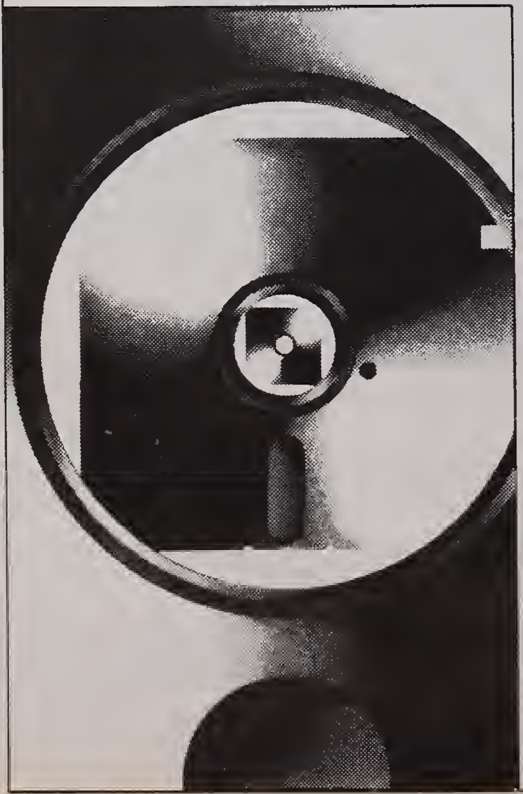

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Evergreen PC Users Group (EPUG-1) (408) 270-4085, San Jose. 8-N-1, 1200/450/300 baud, 24 hours. Sysop Bob Allen. 32 megabytes online, 34+ directories created by Special Interest Users.

RSVP BBS. (415) 659-9169, 300/1200, N-8-1. 24 hours. Sysop Jim Thomas AUGment Amiga user Group discussion and file area, Dr. Who forum, Sanyo, IBM, CP/M files, CP/M forum, Ohlone College forum.

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Marin Community BBS #2 (415) 459-3326. 300/1200 baud, 6 pm - 10 am M-S, all day Sunday. 520 ST/Atari information. Sysop Dave Powers.

MacCircles EBBS (415) 484-4412. 24 hours, 300/1200/2400. Running Red Ryder Host software on a Lisa 2/10 (Mac XL). Large software exchange, private mail system, public messaging.

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520 ST Atari BBS (415) 783-5545, 24 hours, 7 days a week. 300/1200, 8 data bits, 1 stop bit, no parity. Official Sixteen Bit Atari BBS of the San Leandro Computer Club, this system offers full support for all Atari ST system users. Currently running on a ten megabyte hard disk system, the system has many special interest areas including graphics, C, Pascal, LOGO, Basic, MIDI/music, communications and more. Supports four types of XModem/Modem7 and Kermit protocols. Call today! Sysop: Michael Curry.

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Atari Base BBS (408) 745-5308 or (408) 745-2642. 300/1200 baud, any time, any day. The official BBS of Atari Corp, for all Atari computers.

ARBBS (Average Remote Bulletin Board System) (213) 325-0213. 300/1200 baud, 8 bits, no parity, 2 stop bits, 24 hours. It includes hundreds of files for Polymorphic, text, Basic, TS1000, TS2068, Amiga, Texas Instruments 99/4A, Apple, CP/M, Commodore, Turbo, Atari. It includes a very extensive BBS phone list. Call now. Free. Sysop Tom Delellis.

Home Board (408) 294-1454, no fee. A non-profit BBS focused on housing issues in Santa Clara County. 300 baud, 24 hours M-F (8 am Monday through 5 pm Friday). Sysop Ann Dannelly.

Board III (408) 985-7573. 300/1200 baud, 24 hrs., 8 bits, no parity. Board III is an ongoing experiment in telecommunications. Atari-based, but all computers welcome. Sysop: "The Chairman."

Actrix Enthusiasts RBBS/RCP/M (415) 968-1783. 300/1200 baud, 24 hours, Free. Registration required. 46 megabyte CP/M system. In Mountain View. Sysop: Andy Bajka.

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Apple Co-op 290 SW 43rd, Renton, WA 98055. (201) 251-5222.

JUG (Jefferson State Computer Users Group). Many SIGs, newsletter. Dues $5.00 year, some SIGs additional. Contact JUG, P.O. Box 457, Gold Hill, OR 97525-0457.

MicroPro Users Group of America. National group with over 200 members worldwide. Dedicated to supporting MicroPro products, especially WordStar and InfoStar, for any hardware. c/o Procyon Associates, 140 Riverside Drive, New York, NY 10024. (212) 595-4811.

Franklin Users Group International. Supporting users of II, II+, Franklins, and all compatibles. We support all members with a monthly newsletter, "The Clone Ace," a growing public domain library and personal attention. Membership $15.00 a year. Contact Douglas M. Trueman, EastWind Apt. L77, Tecumseh, MO 65760.

68796 Hackers. 68796 (68000 + IEEE-796) is the only users group supporting hobbyists constructing WICAT 150/Minisystem, Multibus, and 16/32 bit systems. In addition to the 68796 Hacker's Newsletter, we are putting together a disk library. Dues $20/year. Contact Victor R. Frank, 12450 Skyline Blvd., Woodside, CA 94062. (415) 851-7031.

Golden Apple Club, Apple II and Macintosh. Contact Stefano Minotto, Golden Apple Club, Riviera Tiso da Camposanpiero, 26, — 35100 Padua, Italy.

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PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

ASSOCIATIONS

Community Entrepreneurs Organization (CEO) Business networking group meets around SF area. Invests in new products, markets, brainstorms. Share info. on tech and non-tech business issues. 4 meeting locations, various week nights. Contact Dr. Crandall, P.O. Box 2781, San Rafael, CA 94912. (415) 435-4461.

Computer Professionals For Social Responsibility P.O. Box 717, Palo Alto, CA 94301. (415) 322-3778.

Computer Professionals For Social Responsibility (East Bay) 902 Rose Ave., Piedmont, CA 94611. Contact Bruce Joffe, (415) 768-0288 days, (415) 654-5263 eves.

FOCUS-MED (Federation of Computer Users in Medicine). Open to all physicians and health professionals. Practice management consultant registry. (415) 626-4600.

FOCUS-DDS (Federation of Computer Users in Dentistry). Open to all dentists and dental professionals. Practice management consultant registry. (415) 626-4600.

ITRA Independent Technical Representative Association is an organization dedicated to helping people better understand the Personal Computer (IBM). Contact Tim Jones, 870 Market St. #609, San Francisco, CA 94102, (415) 421-4872 for meeting time and date.

MCTUG (formerly Marin County TRS-80 Users' Group). MS-DOS, CP/M and Tandy users group. Meets 7:30 pm on the first Monday of the month at the Larkspur Masonic Lodge, 1122 Magnolia Ave., Larkspur. Contact Dr. Frank Hovell, 907 Sprucewood Court, Petaluma, CA 94952, (707) 762-5740.

PRACSA (Public Remote Access Computer Standards Association) offers to clubs, schools, and user groups a Speakers Bureau. The purpose of the bureau is to act as a resource to these groups in obtaining speakers of high quality for their meetings. The volunteer speaker is provided free to the group. Contact (408) 262-5150. Meetings 4th Wednesday, 7 pm, Vadic Cafeteria, 222 Caspian Dr., Sunnyvale.

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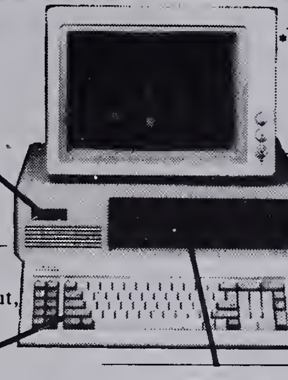

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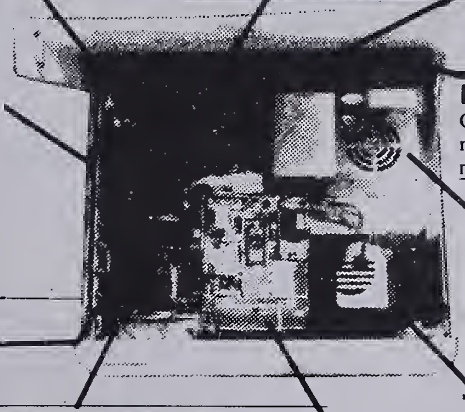

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From *The San Francisco Examiner*. John C. Dvorak. September 8. 1985 D-3
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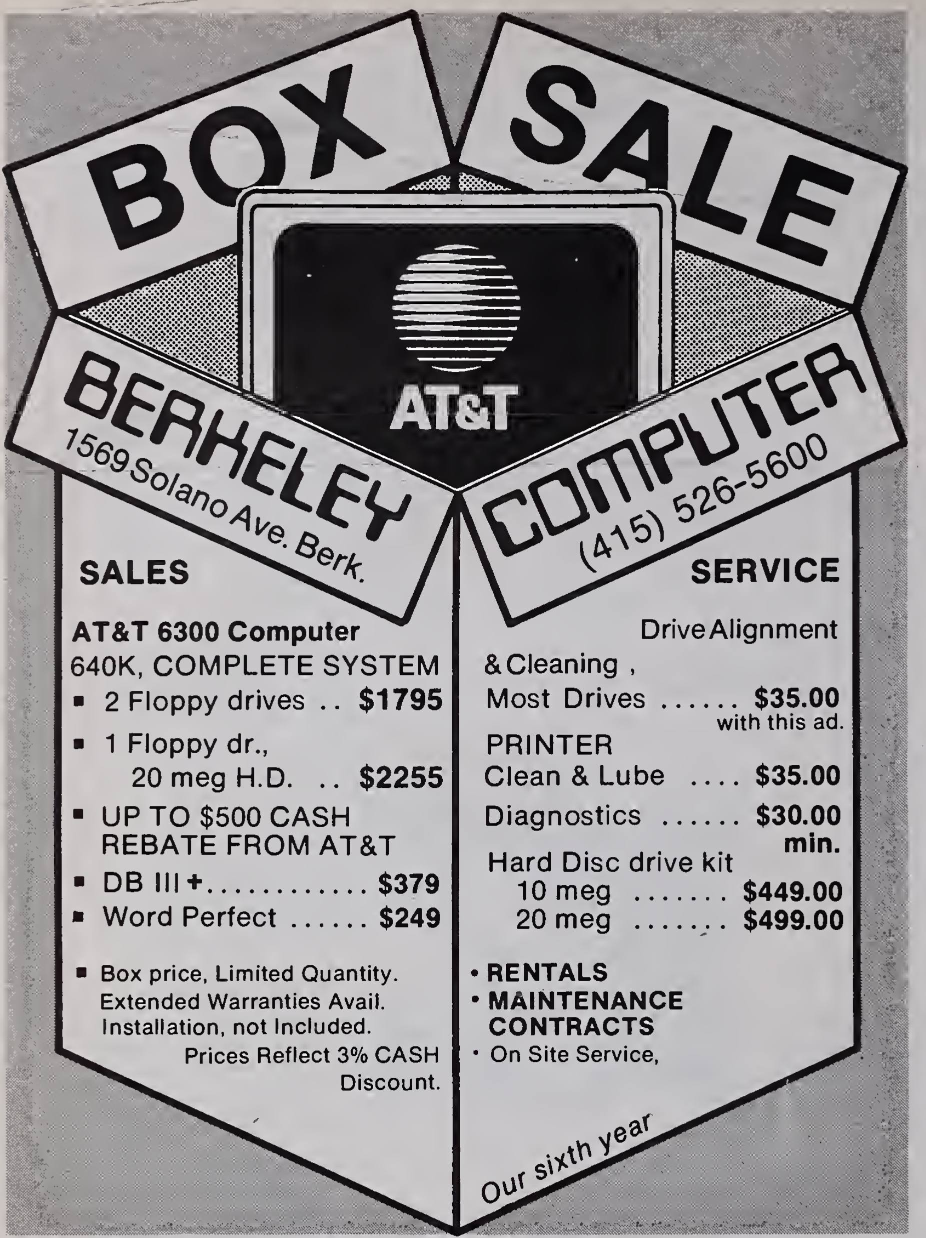

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San Francisco Computer Society (Formerly the San Francisco First Osborne Group). A society for users of portable computers and/or the CP/M operating system. P.O.. Box 783, San Francisco, CA 94101-0783. Meetings on fourth Thursday of the month, St. Aidan's Church, Diamond Heights and Goldmine Dr. in SF. All are invited. Dues $10/yr.

Software Entrepreneurs' Forum, PO Box 61031, Palo Alto, CA 94306. (415) 854-7219.

PATCA (Professional & Technical Consultants Association). 1330 S. Bascom Ave., Suite D, San Jose, CA 95128. (408) 287-8703.

BAYMUG. Bay Area MicroProcessor User Group. General computer group, mostly CP/M and S100. All types of interests welcome. Celebrating our 10th year of meetings! Meetings 1441 Rolins Rd., Burlingame, CA, 1st Thursday, 7:30 p.m. Contact Victor K. Bailey, P.O. Box 248, Pleasanton, CA. 94566. (415) 462-4442.

Byte Hum. A user group for computer buffs concerned with human needs, or social activists who want to learn about computers. Let's put all that knowledge to work for social transformation! Sponsored by the Humanist Party. contact Rick Wall, (415) 495-6555 or (415) 337-2530.

Society for Technical Communication. STC is a professional organization dedicated to furthering the art of technical communication. The San Francisco chapter has about 200 members. Writers, artists and others interested in technical communications are welcome. Meetings 3rd Wednesday of every month, 5:30-7:00 pm; call Sarah Collings, (415) 383-9631 for info.

North Bay Users Group (NBUG). Family computer club devoted to all aspects of computing. Monthly newsletter, library, software demos, etc. Meetings at "CAVE" school, 2nd Tuesday of the month, 7:30-10 pm. Contact Gloria Hutchinson, P.O. Box 7116, Vallegjo, CA 94590, or call (707) 644-9327.

Robotics Society of America. Dedicated to dissseminating information about robotics, artificial intelligence and machine controls. Mailing address 36 Newell St., San Francisco, CA 94133, (415) 673-2376. San Francisco chapter meets 2nd Monday of the month, 8 pm, Homestead Savings 5757 Geary Blvd. Contact Jim Strope, (415) 552-6564. Berkeley branch meets 6:30 pm, last Wednesday of the month, Claremont Branch, Berkeley Library, Ashby and Benvenue. Contact Soren Knudson, (415) 843-2344. Sunnyvale Pongbotics meets in Sunnyvale on the De Anza College campus, Room 22, first three Wednesdays of the month, 7:30 pm. Contact Bill Lee, (408) 281-2252.

USER GROUPS

ACTRIX

ACTRIX Computer Enthusiast Society. Membership ($20/yr) provides public domain software, group rates, discounts for owners of Actrix/Access Matrix microcomputers. Meetings at Sunnyvale Community Center, last Wednesday of the month, 7 pm. Contact K. Edward Lynch, 1405 Phelps Ave. #29, San Jose 95117, (408) 756-5104, for more information.

ADAM

California's Adam Users' Group. For a sample issue of the newsletter and a hardware-software catalog free, send your address to CAUG, 1643 Beach St., San Francisco, CA 94123.

ADAM

South Bay ADAM Users' Group. Now forming a users' group exclusively for the ADAM enthusiast in the south bay area. Call Steve for more info at (408) 253-4190.

AMIGA

First Amiga User Group. We offer demonstrations of software and hardware, a public domain library, and general user help at our monthly meetings, which are held on the first Tuesday of each month in Belmont, CA. Meeting address 1300 Fifth Ave., Belmont, CA, 94070, 7 pm, first Tuesday of the month. Contact Tim Avery/Kayvan Pejooh, (415) 595-5452.

AUGment Amiga User Group in the South Bay. End-users, enthusiasts, developers and programmers all welcome. Meetings at Glendale Savings, 275 W. Calaveras, Milpitas, 2nd Fridays, 7 pm. Contact Jim Thomas, P.O. 1863, Fremont, CA 94538, (415) 651-0201.

APPLE

San Francisco Apple Core Meets every third Saturday of the month at Fort Mason, Bldg. C, Room 100 at 10 am. New products and innovations are featured for Apple II, Apple III, Macintosh and Lisa. Public domain library, SIGs, tech help, newsletter. $20 per year membership. Info: SF Apple Core, 1515 Sloat Blvd., Suite 2, San Francisco, CA 94132. (415) 566-2342 (voice), (415) 474-8608 (BBS/modem).

SPCA (Society For The Prevention of Cruelty To Apples) Apple user/interest group. Features: Monthly meeting with newsletter, raffle and door prize of hard/software, demonstrations, lectures, discussions. $20 per year, pro-rated after June. Meetings last Wednesday of month, 7:30 pm. Contact Paul Meyerholtz for info (415) 490-8209.

Association of Apple 32 Users Macintosh, Lisa. An association of "knowledge workers" who wish to share information on products, applications, and events. User-developed, non-copyrighted software, SIGS, newsletter. P.O. Box 634, Santa Clara, CA 95052.

San Leandro Apple Eaters Users Group. Apple II users group meets the first Thursday of each month at San Leandro High School (room 213). New Owners to experienced users welcome: Appleworks, education, hardware/software, telecommunications. Call Open Campus BBS area 11 (415-577-3409) or President Paul Stryker (415-782-9250) for more information.

Pen-Apple (Peninsula Apple Users Group) Meetings 2nd Thursday each month at 7:30 pm, Ampex Corporation cafeteria, 401 Broadway, Redwood City. Contact Bob Runyon, (415) 592-1167.

Diablo Valley Apple Users. Meets 3rd Friday of each month at EMS, 2371 Stanwell Dr., Concord, at 7 pm. Contact Lynn Hart, P.O. Box 5031, Concord, CA 94524, (415) 798-9281.

South Peninsula Apple Computer Enthusiasts (c/o David Harris, P.O. Box 1257, Palo Alto, CA 94302) meets near the Varian Credit Union, Bldg. 4C, 611 Hansen Way, Palo Alto, at 7:30 pm on the first Tuesday of every month to exchange information about available hardware, software, events, publications, and methods on Apples, and to encourage collaboration on projects. Call (415) 856-9126 — answering machine takes 30-second messages.

Roseville Apple Core. Meets 1st and 3rd Tuesday each month at Roseville Public Library. Contact Dave Smart, P.O. Box 1377, Roseville. (916) 961-2249.

APPLE

Apple Sac. (Sacramento) Meetings on first Wednesday and third Tuesday every month at Madison School, 5241 Harrison St. (corner Harrison and Madison Ave.—1/4 mile west of 180 on Madison Ave.), 7:30 pm. Contact Ray Beam, president, P.O. Box 254645, Sacramento, CA 95825, (916) 448-6115 for more information.

Stanislaus Apple Group. You're invited! Stanislaus Apple Group meets 2nd Tuesday each month, 7 pm, Room 124 Ag Bldg, Modesto JC, main campus. We support Apple II and compatibles, apple III, Mac, Lisa. Newsletter, BBS (209-529-3202), extensive PD software library. More info call (209) 523-7289 (eves).

Santa Cruz Apple User's Group meets at Cabrillo College, Aptos, ILC building, 1:30 pm, second Sunday of the month. For information contact Tim Ruckle, president, (408) 462-3154.

Apple Gardens. New Apple II users group. Share info, programs, group purchases. Brand name disk 35¢ each, new products, software demos and evaluations. Call Tom Turley at (415) 468-4045

ASHTON-TATE

Framework/Editor Bay Area Users Group (FREDBUG) Purpose of the group is to share programming and applications techniques under FRAMEWORK for the business and technical professional. Call for info: Rudi Wiedemann, (408) 730-4159.

San Francisco dBase User Group For advanced users and programmers. Meets once per month. Membership required for attendance. Contact Frank A. De Coster, 1100 Gough St., San Francisco, CA 94109, (415) 474-6693.

dBase Users/East Bay (formerly met in Concord). Meets 3rd Sunday, 1 pm, 2415 Grant St., Berkeley. For more information contact Cynthia Kolnick, (415) 235-7317 or Darrell Bross (415) 586-5788.

dBase II/III SIG of SF PC Users Group meets third Monday of each month, 7-8 pm, Fort Mason, San Francisco. Contact Ron Freshman, (415) 459-6613.

DBDVLPRS (dBaseIII Program Developers). Call for information on meeting time and location: Gil Orlik, (415) 931-0377, 2240 Buchanan St., SF 94115.

Framework SIG of SF PC Users Group. Users of all levels, programmers, developers. Meetings at Fort Mason Center, San Francisco, 3rd Monday of each month. 7-8 pm. Contact Tom Reichert, (415) 391-4687.

Framework Users Group of San Francisco Bay Area. Meets at 2 pm on the Second Sunday of each month. Meeting location may vary for the convenience of members. For information call (415) 521-4643.

ATARI

ABACUS (Atari Bay Area Computer Users Society) All ATARI users or prospective users are welcome. Membership ($15/year) provides public domain software, low cost blank disks, monthly newsletter, group prices on hardware and software, help from experts, low cost classes for beginners. Meetings first Saturday of the month, Fort Mason, SF, Room 300, Bldg. C, 10 am-2 pm. Contact Bill Zinn, P.O. Box 1823, Mill Valley, CA 94941. (415) 753-8483.

A.C.M.E. (Atari Computer — Marin Enthusiasts) Meets monthly in Marin, third Thursday evening monthly from 7 pm on. Gallinas School, 177 N. San Pedro Rd., San Rafael. Contact Bruce Frank, (415) 435-6020, P.O. Box 222, Tiburon, CA 94920.

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Epson FX-85 — 160cps, NLQ	Call
FX-286 — Emulates IBM ProPrinter	Call
LX-80 — 80 col., NLQ mode	Call
LQ-800 — 80 col., 24-pin head	Call
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OKIDATA

182P, 120 cps, 80 Col., Parallel	$239
84P, 200 cps, 136 col. Parallel	$649
192P, 160 cps, 80 col. Parallel	$349
193P, 160 cps, 136 col. Parallel	$549
2410P, 350 cps, 136 col. Parallel	$1895

IBM

IBM ProPrinter — 200cps, 80 col	$449
IBM Color Jet — 80 column	$645
IBM QuietWriter II - 60cps, 132 col.	Call
IBM Wheel Printer — 25cps, 132 col	Call

TOSHIBA

P321 — 180cps, 24-pin head	$549
P341 — 220cps, 24-pin head	$899
P351 — 288cps, 24-pin head	$1,049

RICOH

RP1500Q — 40cps daisywheel printer, $1,495 value. *Special purchase* $759.

CITIZEN

MSP-10 — 80 column	$249
MSP-15 — 132 column	$349
MSP-20 — 80 column	$319
MSP-25 — 132 column	$485

STAR GEMINI

SB-10, 24-pin, 80 column	Cell
SG-10/15, SD-10/15, SR-10/15	Call

DIABLO

Diablo 630 API, 40 cps daisywheel printer . . . . . . *Sale Price* $1,295

HEWLETT PACKARD

H-P ThinkJet Ink Jet Printer
150cps, 80 col., 11x12-dot text. $399

H-P LASERJET PRINTER

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H-P LASERJET PLUS	$3,295

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Keyboard for HR-15	$149
Tractor for HR-15	$119
Cutsheet feeder for HR-15.	$189
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HR-25 — 23cps daisywheel, para	$480
HR-35 — 36cps daisywheel, para	$685
DM-40 — 160cps, 24-pin dot matrix, 136 col., with tractor, para	$925

FORTIS — *by Brother*

Fortis 15XL — 17cps daisywheel printer w/3K buffer. Parallel	$SALE!
Fortis DM-20 — 160 cps dot matrix, 136 col., NLQ mode, both parallel and serial interfaces	$525
Fortis DX-25 — 25cps daisywheel, 132 column, 7K buffer, quiet operation, built-in parallel & serial	Call
Fortis DH45 — Dual head printer, 160 cps dot matrix, 36 cps daisywheel, Epson, Dieblo compatible	$985
Tractor for 15XL/HR-25	$119
Keyboerd for 15XL	$149
Cutsheet Feeder for HR-15/25	$189
SF-200 Feeder for DM-40/2024L	$275

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KX-P1092	$345
KX-P1093	$425
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Super fast 4 MB per minute trensfer rate. Both mirror image or file by file backup. Uses small ¼" cassette tape. Complete with interface card & tape. Internal unit — $695

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Tractor	$119

NEC

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$105 ea.
360K DRIVE FOR IBM-AT

IOMEGA

Bernoulli Box, 10+10-MB	$2,325
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Non-bootable interface card	$105
Bootable interface card	$229
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Cards for IBM PC and XT w/Free Sidekick software

SixPakPlus Cards

Memory installed on card	64K	128K	192K	256K	320K	384K
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above plus game port	$254	$264	$274	$284	$294	$304

Advantage Card for IBM-AT	128K - $399	256K - $429	384K - $459
	512K - $515	1-MB - $565	1.5-MB - $615
ADVANTAGE PEGGYBACK	512K - $215	1-MB - $265	1.5-MB - $315
RAMpage Card for IBM-PC/XT	256K - $325	2-MB - $595	
RAMpage Card for IBM-AT	512K - $495	2-MB - $659	

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Fully competible with IBM-PC and XT. Comes with Ram disk and print spooler software.

Memory installed on card	0K	256K	384K
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intel Above Boards

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FOR IBM-AT	495	$595	$895

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Watson Voice/Data Modem	$375
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640K memory, 1 floppy drive, serial & parallel ports, clock, Monochrome and RGB color ports, keyboard	$1550
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Monochrome TTL monitor, 12" high resolution, 720x350 dots, non-glare screen. Available in green or amber.

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ATARI

Diablo Valley Atari Computer Enthusiasts (D.A.C.E.) Contact Mike Randis, 3602 Dumbarton St., Concord, CA 94519, (415) 798-6565.

Bay Area Atari Users Group We have a 24-hour BBS at (408) 578-2390. Meetings at Santa Teresa Library, 290 International Circle, San Jose, (408) 281-1978, first Monday of the month. Contact Frank Nagle, P.O. Box 50459, Palo Alto, CA 94303, (415) 940-1323 for more info.

San Leandro Computer Club Although open to all computer users, this group is primarily oriented to Atari computer owners. Our club is considered one of the best in the country, worthy of consideration by both novices and experts. Meetings 1st Tuesday of the month at San Leandro Community Library, 300 Estudillo Ave., San Leandro, CA. Contact Phil Mitchell, P.O. Box 1525, San Leandro, CA 94577-0152 for more info, or call (415) 351-2208.

COAST User Group (California Original Atari ST). Public domain disks, MIDI, support, help for the Atari ST line of computers. Advice and programs not to miss. Meetings at 477 15th St, Oakland, CA, 3rd Wednesday each month, 7-10 pm. Contact Chuck Thorp (415) 945-1949 or Bill Beckerman (415) 658-8865 for information

ATTACHE

Attache UNL Otrona may be dead, but the Attache Users News Letter Lives ON!! Contact Jim Ayers, 301 Poplar St., Mill Valley, CA 94941. (415) 388-4805. Meetings 7:30 pm, 2nd Wednesday.

BASIS

Bay BUG Basis 108 Users meet every first Friday of the month at College of Alameda Computer Room, 7:30 pm. Contact Roger Bernhardt, 536 Mission, San Francisco or call (415) 221-0262 for more information.

CANNON

Cannon AS 100. Anyone who owns a Cannon AS-100 computer and is interested in forming a group to share problems and solutions write HTF-4111 Hilltop, Vacaville,CA 95688.

CASIO

Casio Research Project. Discussion and collaboration; creation of plug-in expansion board using VLSI chip. Share programs. Meetings TBA. Contact Julius M. Zebrowski, (415) 969-9458.

COMMODORE

San Francisco Commodore Users Group Public domain library, classes, tech help, in depth demonstrations, monthly newsletters, Epromer, savings on purchases, all this and more. BBS # (415) 626-6330, (415) 268-3769 300 baud. Meeting address 256 Laguna Honda Blvd., San Francisco, 3rd Tuesday of the month, 7:30 pm. Contact Roger Tierce, 278 27th Ave. # 103, SF, CA 94121, (415) 387-0225.

20/64 Computer User Group — San Jose Chapter meets the first Sunday of each month at Mercury Savings and Loan, 859 Blossom Hill Road (corner of Blossom Hill and Pearl), San Jose, from 6 to 9 pm. For further information call (408) 733-2637 or write to P.O. Box 18788, San Jose 95158.

20/64 Computer User Group — San Jose North Valley Chapter meets the second Saturday of each month at the Milpitas Library, 40 North Milpitas Boulevard, Milpitas, from 10 am to noon. For further information call (408) 733-2637.

20/64 Computer User Group — Cupertino Chapter meets the second Sunday of each month at the Cupertino Public Library, 10200 Torre Avenue, Cupertino, from 6 to 9 pm. For further information call (408) 733-2637.

COMMODORE

20/64 Computer User Group — Campbell Chapter meets the fourth Tuesday of each month at the Campbell Public Library, 70 North Central Avenue, Campbell, from 6:30 to 9:30 pm. For further information call (408) 733-2637.

Diablo Valley Commodore Users Group Meetings Contra Costa Water District Auditorium, 1331 Concord Ave., Concord, CA, second Thursday of month at 7:30 pm. Write DV-CUG, P.O. Box 27155, Concord, CA 94527, or call (415) 838-2838 for more info.

Napa Valley Commodore Computer Club Meets first and third Mondays, 7:30 pm, at Northwood Elementary School, 2214 Berk St., Napa. Take Redwood Road to Dover St. to Berk St. Contact President Dick Bull (707) 257-3773 or vice-president Roger Pruym (707) 253-1690 for more info.

Lake County Commodore Users Group Contact Al Reuss, P.O. Box 388, Clearlake, CA 95422.

Marin Commodore Club Meets at Redwood High School, Corte Madera. Visitors welcome. Contact Elmer Johnson for information: 665 Las Colindas, San Rafael, (415) 479-0426.

PUG of the Silicon Valley Commodore 64 (PETs, 8032s, 2001s also). Friendly computer group established back in 1977 with a very extensive disk library. No dues, donations only. Bring your machines to the meeting or use club dual disk drive to copy programs. Meets at cafeteria, Ford Aerospace Bldg. #3, 3939 Fabian Way, Palo Alto, CA 94303, 1st Wednesdays of the month, 7-10 pm. Contact Marvin Vander Kooi, (408) 446-1936.

Peninsula Commodore User Group Public domain library, demonstrations, user help, newsletter. Membership is $25 per year. Non-members pay $2 at door. Meetings are 3rd Tuesday of each month. Meeting place is the Church of the Good Shepherd Hall, 1300 5th Ave., Belmont (across from city hall). For more info call (415) 595-5452 between 9 am and 6 pm, or call our BBS at the same number after 6 pm.

The Commodore Connection. Newsletter, BBS, public domain disks, dealer support and more. Approved member of Commodore World. Call (415) 458-3318 8 am - 8 pm or 8 pm - 8 am for the BBS. Meetings 1st and 3rd Mondays, Neighborhood Center, Civic Ave., Pittsburg, CA, 7:30 pm.

Commodore User's Group of Hayward. The CUG of Hayward meets the first Saturday of each month from 3 to 5 pm at the Commodore Computer Center located at 22521 2nd St., Hayward. Call (415) 886-1916 evenings between 5 - 8 pm or (415) 537-1323 days bvetween 10 am and 5 pm.

NBUG (North Bay Users Group). Contact Jim Stephens, president, 124 Delgado St., Vallejo, CA 94591, or write P.O. Box 7116, Vallejo, CA 94590.

Santa Rosa Commodore Users Group. Walter Saures, President, 333 East Robles Ave., Santa Rosa, CA 95407-7921. (707) 584-7009. Information line, (707) 526-6464 — SR-CUG-BBS.

Root Searchers-64. Commodore, Dynax, WordPro 3 Plus, and Practi-Calc II users in Richmond area, let us unite to solve problems which makers ignore. Family research emphasis. Meeting time and place to be decided by respondents. Contact Vera Ross, (415) 235-8716.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

COMPAQ

SF Compaq Users Group is now a SIG of the SF IBM PC Users Group. For information please call D. Blow at (415) 221-2764.

COMPUPRO

Bout Time, By God CompuPro user group forming in San Francisco. Call (415) 665-4733 or write to Barry Hermanson, 1509 5th Ave., San Francisco, CA 94122 for information.

CROMEMCO

Silicon Valley Cromemco Users Meets 3rd Tuesday of the month at MCM Enterprises. 215 Hamilton Avenue, Palo Alto, CA. Call Emily Ott at (415) 854-5818 for details.

DATAFLEX

Dataflex User Group. For more information call Alex at (415) 433-7944.

DYNABYTE

Dynabyte Announcing M.A.D., Mutual Assistance, Dynabyters (Dinosaurians?) For owners of this orphan Z80 S100 machine. Call Woody McPheeters, (415) 548-3126 or write 3128 King St., Berkeley, CA 94703.

EAGLE

Eagle Computer Users Group. P.O. Box 3381, Saratoga, CA 95070, (408) 973-1254. General meetings are held every 4th Monday at the Mercury Savings and Loan, Blossom Hill Road and Pearl Ave., 7-9 pm.

Screaming Eagles User Group for 8 bit CP/M machines. Quarterly newsletter, public domain disk. Meet on CompuServe (PCS 54). $10/year individual, $20/year business. 101 Parnassus #1, San Francisco, CA 94117. (Voice) (415) 661-4362.

ENABLE

ENABLE Users' Group. Supporting users of Enable, the integrated software system. Monthly meetings and newsletters. Registration and year's dues: $25.00. Loaner copy available for trial. Meetings at Fort Mason Center, SF. Time and date vary—write for sample newsletter, or call: Lion Goodman, 38 Glen Dr., Mill Valley, CA 94941, (415) 381-3300.

EPSON

Bay Area Epson Salts — Epson 125 Del Centro, Millbrae, CA 94030, (415) 697-0567.

Epson Users of San Francisco Bay Area Epson group has nationally circulated newsletter *Valnews*: 400 members — mostly QX-10 owners, growing software library. Meetings focus on mutual support. Mainly Valdocs and other applications. Meetings first Thursdays. 7 p.m. Fort Mason Center, Bldg. C, Room 205, San Francisco. Contact Alan Magary, 904 Irving St., Suite 271, San Francisco CA 94122, (415) 661-9270.

Napa Valley Epson Users Group 1307 Hestia Way, Napa, CA 94558, (707) 253-8727.

Epson Users Group of Sacramento. The only user group for QX-10/16 owners east of Bay Area/Napa. Actively seeking new members. Please get in touch with us. Meetings 1st Tuesdays, 5026 Don Julio Blvd., North Highlands. Contact Terry Sandbek, 4095 Bridge St., Fair Oaks, (916) 965-4606 or 966-5730.

FORTH

FORTH Interest Group, Berkeley Chapter. Meets 2nd Saturday of the month at 1 pm, 10 Evans Hall, UC Berkeley. Contact Mike Perry, (415) 644-3421.

FORTH Interest Group, Monterey/Salinas Chapter. Contact Bud Devins, (408) 633-3253.

FORTH Interest Group, Sacramento Chapter. Meets 2nd Tuesday of the month, 7 pm, 170B 59th St., Room C. Contact Tom Ghormley (916) 444-7775.

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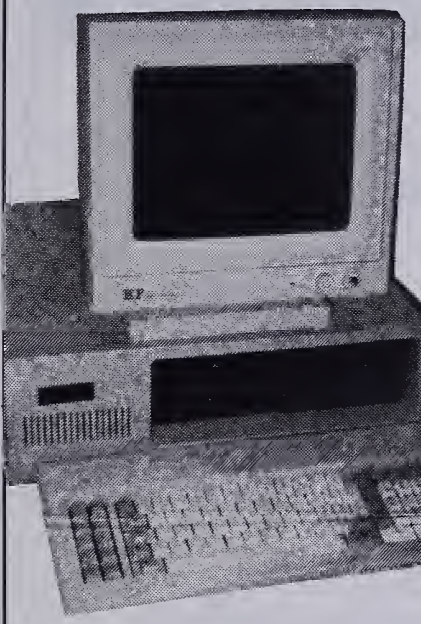

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FORTH Interest Group, Bay Area Chapter. Meets 4th Saturday of the month, 10 am advanced, 1 pm beginning, at ABC Christian School Auditorium, Dartmouth and San Carlos Ave., San Carlos (408) 277-0668.

FORTH Interest Group, Stockton chapter. Contact Doug Dillon (209) 931-2448.

GAVILAN

Gavilan User Group. Monthly meeting at Bldg. 160, Lockheed, Sunnyvale, 2nd Thurs., 7 pm. Contact R.W. Brown at (408) 379-2774 Gavilan BBS (408) 374-3974 SIG S.V.C.S.

HEATHKIT

San Jose Heathkit Users Group. Meets first Wednesday at 7 pm at the Heathkit store on South Bascom Ave. in Campbell.

B.A.H.U.G. Heath/Zenith computers, CP/M and MS-DOS. Meetings at 2001 Middlefield Rd., Redwood City, CA, 7 pm, 2nd Thursday. Contact John Lindquist, 642 Hollenbeck Ave. #1, Sunnyvale, CA 94087.

IBM

South County PC Users Group Meetings held second Thursday of each month, at Software Center, 22406 Foothill Blvd., Hayward, CA. Public Domain club disks, newsletter and help on MS-DOS problems. Contact Debra Taylor, P.O. Box 7656, Fremont CA 94537-7656 for more info, or call (415) 276-5111.

SVCS (Silicon Valley Computer Society). IBM users group. Meets second Wednesday at 7 pm at the Westinghouse auditorium located on the corner of Duane and Britton Aves., in Sunnyvale.

California PC LAN Users Group, 1625 The Alameda, Suite 511, San Jose, CA 95126. (408) 289-1711.

Diablo Valley PC. An IBM PC User Group, monthly meetings, newsletter and public domain software library. Contact Jim McDonnel, president, 2261 North Main St., #117, Walnut Creek, CA 94596, (415) 933-1270.

XT Compatible Club SF. For all IBM XT "clones" such as homemades, no-names, Nova, Magnum, etc. Meetings 1st and 3rd Monday, Lincoln University (Masonic & Turk), in 3rd floor library, 7 pm. Call Edwin Rutsch (415) 552-8648. BBS (415) 552-9070.

The Bay Area Computer Society Emphasis on IBM PCs, networking and multi-user systems. P.O. Box 20583, Oakland, CA 94604, (415) 839-5786.

IBM PC Users Group of the Redwoods. Anyone interested in PCs and/or compatibles is welcome. Meetings at Yulupa School, 2250 Mesquite Dr., Santa Rosa, CA, 4th Thursday of the month, 7 pm. Contact Michael Adams, P.O. Box 5055, Santa Rosa, CA 95402, (707) 664-8320, (707) 546-3619.

Sacramento PC Users Group. Meets at 1701 C St., Sacramento, 7 pm, 3rd Wednesday of the month. Contact Barney McCauley, P.O. Box 685, Citrus Heights, CA 95610, (916) 484-1048.

SF PC jr User Group meets monthly. Lectures and discussions on the usage of IBM PC jr software and hardware. Software and books library. For more information please send SASE to 2336 Market St., Suite 20, San Francisco, CA 94114. Meetings at 1550 Bay St., SF, every first Sunday at 7:30 pm.

San Francisco PC Users Group. Largest SF group focusing on IBM and compatibles. Over 150 disks of public domain software, excellent monthly newsletter. 800+ members, $30 yr. Write 3145 Geary Box 155, San Francisco, CA 94118. Meetings 8 pm, 3rd Mondays, Bldg A Fort Mason.

KAYPRO

BAKUP (Bay Area Kaypro Users and Programmers). One of largest Kaypro user groups in country. Meets 3rd Tuesday of month, 7:30 pm. We support our RBBS/RCPM for members, publish a monthly newsletter, have a 40 volume software library, and a lot of fellow KP'ers! Write for info, $10 per year to join: Membership Coordinator, P.O. Box 20181, Oakland, CA 94620.

KAYFUN Peninsula Kaypro Users Group meets second Thursday of every month at 7:30 pm in the ground floor social room, 222 Laurel St., San Carlos. Bimonthly newsletter, public domain software library, and publication library. Membership $12 per year. Every third meeting a Free Forum night dedicated to individual help. Contact Larry Welling, 222 Laurel St. #310, San Carlos, CA 94070, (415) 593-9981.

South Bay Kaypro Users Group (SBKUG). Meetings at 10400 Torre Ave., Cupertino. We have an extensive library of public domain software, including over 200 diskettes of the SIG/M library. The floor is open for questions at each meeting, and we welcome new members at all levels of ability. Bring your machine, or at least your diskettes. For meeting night call Chuck Hansen at (408) 257-5244, or write P.O. Box 390088, Mountain View, CA 94039-0088.

HAYPROS. Kaypro User's Group - informal format, dealer supported. Meets at Computer Insights, 40957 Grimmer Blvd., Fremont, CA 94538, 1st Tuesday each month. Contact Ted de Castro, 18841 Vineyard Rd., Castro Valley, CA, (415) 581-8882.

CP MUSC, CP/M Users of Santa Cruz County (formerly SCMDUG and SCKUG). Open to all users of Morrow, Kaypro, Osborne, Televideo and other CP/M computers. Write to 376 Lucinda St., Scotts Valley, CA 95066 or call Barney Bricmont at (408) 476-0505.

MACINTOSH

EBMUG (East Bay Macintosh User's Group) Friendly, informal. Public domain software and computer book library. Information exchange. Speakers. Product discounts. Free admission. Meets at West Berkeley Public Library, 1125 University Ave., Berkeley, CA, third Tuesday of each month at 7:30 pm. Contact Shep Tamler, (415) 621-8808.

Bay Area MacForum New and experienced Macintosh users. 2 monthly meetings: one immediately following San Francisco Apple Core meeting at Fort Mason, Building C, Room 300, San Francisco, 3rd Saturday of the month; one at Software Center, The Willows Shopping Center in Concord, second Monday of the month, 7 pm - 9 pm. For info: 1515 Sloat Blvd. # 2, San Francisco, CA 94132, (415) 566-2342

Berkeley Macintosh User Group (BMUG). 1442A Walnut St., #153, Berkeley, CA 94709. Free meetings on campus (UCB). General meetings: every Thursday 7-9 pm, Physical Sciences Lecture Hall. Beginners: 6 pm Tuesdays, 230 Wheeler. Developers: 6 pm Wednesdays, 30 Wheeler. Call the office for this week's topic. Reese Jones, (415) 849-9114. BBS (415) 849-BMUG.

MacNexus. Sacramento's Macintosh User Group. 150 members, but still informal. Extensive public domain collection. Contact Gail McGovern, P.O. Box 163058, Sacramento, CA 95816, (916) 446-2411. Meetings 3rd Thursdays, 6:30 pm, Almond Plaza, 17th & C, Sacramento.

MACINTOSH

MacProgram Unlimited. Meets monthly. Informal with hands-on testing of different programs. Public domain and standard programs in rental library. Meets Albany YWCA, Kains and Solano, Saturday 9:30 am. Contact William Gong, P.O. Box 7704, Berkeley, CA 94707. (415) 527-1756.

Stanford Macintosh Users Group (SMUG) meets on the first Monday of the month at 7 pm in Kresge Auditorium, Stanford Campus. Meetings include speakers, disucssions, answers and sale of library disks and other SMUG items. The Developer's SIG meets every other Thursday of the month starting January 16 in 111 Polya Hall at 7:30 pm. SMUG also publishes a newsletter and runs a BBOARD system, and will be holding MacFest in the Tressider Union, Stanford campus, April 15-16. For further information, call the SMUG hotline at (415) 725-0152, or write to SMUG, P.O. Box 6508, Stanford, CA 94305.

SHOWPAGE, the San Francisco Bay Area MUG. Speakers and product demonstrations. Monthly 25-30 page newsletter. Discussion, discounts, public domain & demo program library, and more. Recently under new management. Meets second Tuesday of each month at Fort Mason, Bldg., C, Room 300 at 7:30. For further info call (415) 621-8808 or write 2040 Polk St., Box 340, San Francisco 94109.

Club Mac of Monterey. Macintosh User Group of Monterey Bay Area. Membership with monthly newsletter $25. Meetings 7 pm, last Wednesday of the month, Santa Catalina School, Monterey. Contact Richard Ware, P.O. Box 222988, Carmel, CA 93922.

Macs of Marin. Macintosh users of Marin County. Large public domain library. User exchange of tech and info. Emphasis on education of Mac users. Meetings Room 104, Science Bldg., College of Marin, 2nd Tuesday of the month, 7:30 pm.

maCruzers, a Macintosh user's group, meets every third Wednesday of the month at Affordable Computer on Front St. in Santa Cruz, 7 pm. For information call (408) 459-1644, or leave mail on The WELL (415-332-6106) for Paul Foraker <sforaker>

MICROMATE

MicroMate. East Bay MicroMate Users' Group. CP/M (3.0) public domain software available. Meetings at 757 Longridge Rd., Oakland, 1st Thursday of each month. Contact Ed Miler, P.O.B. 402, Moraga, CA, 94556, or call (415) 376-1611 for info.

MINDSET

First Mindset Users Group Monthly meetings and newsletters cover advanced topics in computer graphics, animation, and video production using the Mindset Personal Computer and accessories. Meetings at various Bay Area locations, 3rd Monday of the month, 7 p.m. Contact Tim Negris, 138 Village Ct. #6, Walnut Creek, CA 94596, or call (415) 934-1448.

MORROW

BAMDUA (Bay Area Micro Decision Users Association). Meets on last Tuesday of the month, 7:30 pm. Call (415) 644-2805 for location. Monthly newsletter.

SMUG (Stanford Morrow Users Group). Meets 2nd Wednesday of each month at 8 pm on Stanford campus, Polya Hall, Room 111. For further information call Ross E. Voyles, (408) 243-1455.

CP MUSC, CP/M Users of Santa Cruz County (formerly SCMDUG and SCKUG). Open to all users of Morrow, Kaypro, Osborne, Televideo and other CP/M computers. Write to 376 Lucinda St., Scotts Valley, CA 95066 or call Barney Bricmont at (408) 476-0505.

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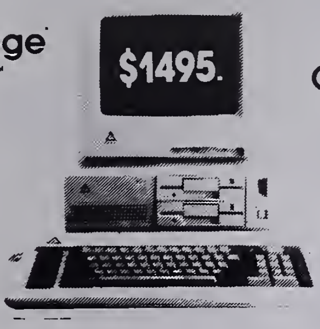

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OSBORNE

East Bay FOG (First Osborne Group) Osborne, Kaypro and Morrow. Meets second Wednesday of the month at B&B Electric, 2832 Ford Street, Oakland. 6 pm workshops, 7:30 pm program. For info contact 5497 Taft Ave., Oakland, CA 94518; phone (415) 272-9099.

SMOG3 Osborne User Group (Peninsula) Meets first and second Monday of every month at Crane Place, 1331 Crane, Menlo Park. Call Phil Moore at (415) 325-2442.

MTDOG (Mt. Diablo Chapter—First Osborne Group) Meetings 7 pm, 3rd Wednesday each month in Diablo Room (top floor), SF Federal Savings and Loan, 1660 Olympic Blvd. (cross-street: California), Walnut Creek. Software library, software/hardware/service demonstrations, sharing problems and solutions. For meeting info contact Sylvia Tobias, (415) 376-4720.

North Bay First Osborne Group. Meets first Thursday of the month at 7:30 pm, Valley Oaks Apts. Rec. Hall, 2600 Northcoast St., Santa Rosa, CA (off West Steele Lane). Call (707) 546-0145 for more information.

PICONET

Piconet CP/M Users Group. Meets second Thursday at 7 pm at the Stanford Linear Accelerator Auditorium, Palo Alto. The password at the gate is "Piconet Meeting."

PIED PIPER

Pied Piper Users Group Owners of Pied Piper CP/M based computer are invited to call or attend the PPUG. Meets last Tuesday of the month at 7:30 pm. Please call (415) 638-1146. Meeting address: 10950 Elvessa St., Oakland 94605.

R2E

North Bay R2E Forming user group for R2E System microcomputer users. Please call (415) 235-1598 for information.

RADIO SHACK/TRS

Byte Bandits of America. TRS-80s Computer Club. Meetings: bi-monthly. 2nd Sat., 1 pm, workshop. 4th Wed., 6 pm., formal meeting. Club membership required. Contact Robert W. Brown, 780 Manx Ave., Campbell, CA 95008, (408) 379-2774.

TRS-80 Computer Society of Diablo Valley The purpose of this group is the sharing of information, problem solving, support group, purchasing discounts, support for professional, business and educational users of Radio Shack computers. Out-of-area members welcome. Meetings second Tuesdays of the month, Willow Creek Center, 1026 Mohr Lane, Concord, 7:30-9:30 pm. Doors open at 7. Contact Roy or Sue Copeland, P.O. Box 23438, Pleasant Hill, CA 94523, (415) 372-7003.

TRS Nybblers. Since 1979. New MS-DOS SIG, 3rd Fri. ea. mo., Room 1500; CP/M SIG 1st Fri. ea. mo. BBS (415) 582-8442—24 hrs. DSDD disks, boxed, $14.00. Meetings at Chabot College, Hayward, 2nd Friday, 8 pm. Contact B.B. Jarvis, 1975 Paseo Del Cajon, Pleasanton, CA 94566. (415) 582-8442.

Bay Area Chapter of the California Computer Federation, a user group for Color Computer users formed by The Redwood Color Board. First meeting mid-January. Write the R.C.B., P.O. Box 7007, Redwood City, CA 94063 for details.

South Bay TRS 80 Users Group (SBUG). For info write P.O. Box 60116, Sunnyvale, CA 94088 or call Don Rhodes at (408) 996-1008. BBS: (408) 253-6293. Meetings, Cupertino library, 3rd Tues., 7:15 pm.

RADIO SHACK/TRS

San Mateo TRS-80 Users Group. Meets 4th Thursday of the month at Cal Fed S&L, 2600 Ocean Ave., SF., 7:30 pm. BBS (415) 574-7684, 300/1200, 8-N-1 settings. Contact Julian Kaufman, (415) 992-1783.

ROYAL

Royal Alphatronic, San Francisco. New group forming. Call Tom Rutkowski at (415) 863-4794 for information or write P.O. Box 421161, San Francisco, CA 94142.

SANYO

Sanyo User Group of the San Francisco Bay Area meets the second Wednesday of each month at Sears Savings & Loan in the Carlmont Shopping Center (Alameda & Ralston), Belmont, 8-10 pm. National group dedicated to the Sanyo 8 bit CP/M machines: MBC 1000, 1100/1150, 1200/1250 series. For info write SFBASUG, 1260 Westwood St., Redwood City, CA 94061. Include SASE with 39 ¢ postage foı newsletter.

Sanyo MBC 1100-1150 user group now forming in Oakland. Call or write (415) 534-1981, 5885 Bancroft Ave., Oakland 94605 for meeting time and location.

Sanyo National Users Group. SNUG is a central resource for Sanyo information and public domain. Inquiries welcome! Contact Ken Taylor, 4008 Pasadena Dr., San Mateo, CA 94403. (415) 345-7781.

Santa Clara Sanyo Users Group. SCSUG's 24 hour BBS (415) 659-9169. Support for MBC-55X Systems. Meetings at 1 West Campbell Ave. #80, Campbell, 7-10 pm every 3rd Wednesday of the month. Contact Jim Thomas, (415) 651-0201 for info.

Sanyo PC Compatible Club. SPCCC supports Sanyo 16 bit machines and similar PC clones. We publish the Sanyo PC Hackers Newsletter (International), subscription rate $20/yr., and maintain a public domain software library. Meeting at the Mercury Room of Mercury Savings & Loan, 99 El Camino Real, Menlo Park, CA, 7-9 pm the first Wednesday of the month. Contact Victor R. Frank, 12450 Skyline Blvd., Woodside, CA 94602, (415) 851-7031.

SOUTHERN PACIFIC

ICOLATUG. User group for owners of Southern Pacific Ltd's Mountainside ICO and LAT single board computers. Exchange tips and programs. Contact Andrew P. Porter, 774 Joyce St., Livermore, CA 94550.

TEXAS INSTRUMENTS

San Francisco 99ers One General Meeting per month plus uncountable mini-meetings for training. Over 500 programs available in library. Meetings second Tuesday of the month, 6:30 pm. Texas Instruments Learning Center, SF. Contact Dick Altman, 1053 Shrader St., San Francisco. (415) 661-1994.

South Bay T.I. User Group. One general meeting per month. We have training session, library and own bulletin board (408) 578-6264. Meets first Thursday of each month at 7:00 pm, Cupertino Library, 10400 Torre Ave., Cupertino, (between DeAnza Blvd. and Rodriques Ave.) starting at 7 pm in the basement conference room. Call v.p. Keith Felix, (408) 258-6678.

Nor-Cal TI 99/4A Users Group. Learn more about your Texas Instruments 99/4A computer. Free software, sources ofr hardware and software. Contact Dave Steady, 324 Howard St., Petaluma 94952, (707) 762-6561. Meetings at Retail Clerks' Union Hall, 382 Tesconi Ct., Santa Rosa, CA, first Wednesday of the month at 7 pm.

TIMEX/SINCLAIR

East Bay Timex/Sinclair User Group (EBZUG) Timex/Sinclair user group. S/W library and newsletter. Meets at West Branch of Berkeley Public Library at corner of University and San Pablo. Meets 3rd Tuesday of the month at 7:30 pm. Contact Rick Link. 654 40th St., Richmond, CA 94805. (415) 234-3310.

Peninsula Timex/Sinclair User Group (PUG) Timex/Sinclair user group. S/W library and newsletter. Meets at Peninsula Hospital, 1783 El Camino, Burlingame. Meets 3rd Sunday of the month at 1 pm. Contact George Mockridge, 263 Gateway #107, Pacifica, CA 94044. (415) 359-3198.

Silicon Valley Timex/Sinclair User Group (SVTSUG) Timex/Sinclair user group: 6675 Clifford Drive, Cupertino, CA 95014-4530. Bill Miller (408) 253-3175. SW library and newsletter. Meets at Cupertino Library, 10400 Torre Ave., Cupertino, CA, last Tuesday of the month.

UNIX

The Unix C-Club Seminars, public domain softwares, information exchange, Unix hardwares and softwares. Discount on purchases. Meets 2nd Saturday of each month at 10 am. Call Gilbert B. Dalit at (415) 348-6723 or (408) 238-5587 for more information, or write: 122 2nd Ave., Suite 214, San Mateo, CA 94401.

VECTOR

Bay Area Vector Group Meeting held regularly. Please call to be put on mailing list. You will be informed of next meeting! Contact Peter Tjeerdsma, 764 Cole St. #4, San Francisco, CA 94117. Phone (415) 681-0308.

VICTOR

Victor* Group is the San Francisco Bay Area Victor User's Group. We have three chapters — East Bay, South Bay, and San Francisco. Members can attend meetings at any of the chapters or all of them. The more the merrier. Dues are $30 a year, which includes a subscription to VictorTalk, membership in a Victor-exclusive discount buying cooperative, and the right to buy from our public domain library at a discount. South Bay meetings are held the first Thursday of each month at Computer Insights, 40957 Grimmer Blvd., Fremont at 7:30 pm. Contact John Kimber (415) 797-6423. East Bay meetings are held the second Wednesday of the month at 7:30 pm; contact Boardman Moore (415) 283-3285 for location and further info. San Francisco meetings are held the third Sunday of the month at 5 pm at Homestead Savings, 130 West Portal, San Francisco. Contact Joe Zmuda, (415) 584-4048.

VTC-1050

VTC-1050 User's Group. Establishing a VTC-1050 User's group and newsletter. Interested parties please call or write Ken Phillips, 4349 Blackford Ave #1, San Jose, CA 95129, (408) 973-1353.

WORD PERFECT

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ZENITH

Zenith User Group of San Francisco. Zenith users are forming a user group and bulletin board for Zenith computers. Hands on demonstrations will be provided on the full line of Zenith hardware. Meetings at 1325 Howard St., SF, CA. Contact Stan Kelley, 415-861-3068.

B.A.H.U.G. Health/Zenith computers, CP/M, MS-DOS (300/1200 baud BBS 415-365-7836). Meetings 2001 Middlefield Rd., Redwood City, CA, 7 pm second Thursday. Contact John Lindquist, 642 Hollenbeck Ave., #1, Sunnyvale, CA 94087.

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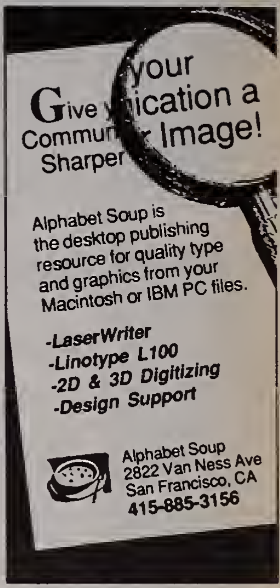

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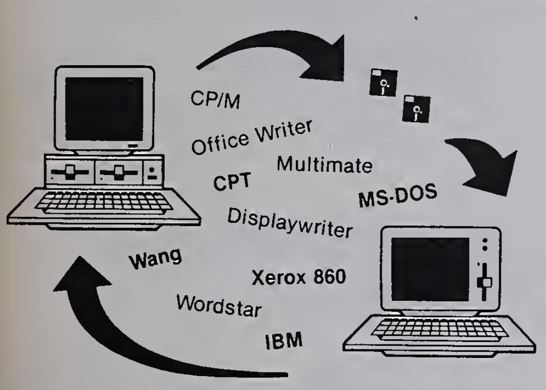

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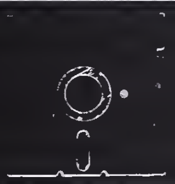

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SYSTEM BUGS

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By Jeffrey Armstrong

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May The Stores Be With You!

Another market, another galaxy.

The old Republicans were the Republicans of legend, greater than distance or Prime Time. No need to note where it was or whence it came, only to know that they were *the* Republicans.

Once, under the wise rule of the Technical Salesmen and the protection of the VAD-I Knights, retail sales throve and grew. But as often happens when Market Share and power pass beyond the reasonable and attain the awesome, then appear those Evil Ones who have no expertise, and greed to match.

So it was with the Computer Market at its height. Like the greatest Corporations, able to withstand any external attack, the market eroded from within. Invisibly, but day to day, margins eroded.

Aided and abetted by restless, power-hungry individuals within the Reseller Channels, and lack of Customer Support from the Manufacturers, the most ambitious Corporations caused themselves to be elected the Industry Standard of the Unixverse. They promised to reunite the disaffected among the Resellers and to restore the remembered glory of the Market.

Once secure in this position they declared themselves indispensable, shutting themselves away from the Customer and reducing the number of dealers. Soon they were controlled by the very same Resellers they had appointed to distribute their Products, people who simply pushed Hardware in boxes with canned software solutions. And the cries of the Consumers for technical assistance and real problem-solving did not reach their ears.

Having exterminated, through Generic Systems and deception, the VAD-I Knights, guardians of satisfaction in the Market, Industry Rulers and Middle Management prepared to institute a reign of terrible products among the disheartened end users of the Galaxy. Many used Advertising Dollars and the names of increasingly isolated Name Brand Computers to further their own personal ambitions.

But a small band of Resellers and System Integrators rebelled at these new outrages. Declaring themselves opposed to the Blue order they began the great battle to restore the Old Market.

From the beginning, they were vastly outnumbered by the Retailers of systems held in thrall by the Empire. In those first dark days it seemed certain the bright flame of Computer Enthusiasm would be extinguished before it could cast the hopeful light of Value Added Expertise across the galaxy of oppressed and frustrated consumers. . . .

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